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TRANSAX: The NCHS System for Producing Multiple Cause-of-Death Statistics

1968-78

Programs and Collection Procedures Series 1, No. 20

This report describes the characteristics of the TRANSAX (for TRANslation of AXis) computer software developed by staff of the National Center for Health Statistics to translate multiple cause-of-death data contained on death certificates from a condition (entity) axis of classification to a person (record) axis of classification. This conversion is an essential step in the development of data for meaningful tabulation and analysis. System development, implementation, benefits, features, and applications are discussed.

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Symbols

- - - Data not available
 - . . . Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - Z Quantity more than zero but less than 500 where numbers are rounded to thousands
 - * Figure does not meet standard of reliability or precision
-

TRANSAX: The NCHS System for Producing Multiple Cause-of-Death Statistics 1968-78

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Introduction

This document describes the methodology employed in TRANSAX (for TRANSlation of AXis), a key part of the multiple cause-of-death statistical program at the National Center for Health Statistics (NCHS). TRANSAX is a computer system designed to convert or translate coded medical conditions and diseases reported on death certificates into a form amenable to the analysis of multiple causes of death.

The components of TRANSAX are presented in this report from the perspective of statistical function rather than of com-

puter systems organization. The objective is to convey the contribution of TRANSAX to the process of classifying multiple-cause data in a form useful for research and analysis.

This report discusses developmental and implementation activities associated with the Center's annual mortality data files for the years 1968-78. The report also includes background information on the Center's multiple cause-of-death program.

Background

For many years, cause-of-death statistics have been based on the underlying cause of death, which is defined as “the disease or injury which initiated the train of morbid events leading directly or indirectly to death or the circumstances of the accident or violence which produced the fatal injury.”¹

For a given death, the underlying cause is selected from the condition or conditions recorded by the certifier in the cause-of-death section of the death certificate. NCHS is bound by international agreement to make the selection through use of the classification structure and selection and modification rules contained in the latest revision of the *International Classification of Diseases (ICD)*, as promulgated by the World Health Organization (WHO).^{2,3}

The selection rules take into account the certifier’s ordering of conditions and their causal relationships and guide the coder in systematically identifying the underlying cause of death. The intent of the modification rules is to improve the usefulness of mortality statistics by giving preference to certain classification categories over others and consolidating two or more conditions on the certificate into a single classification category.

As a statistical datum, the underlying cause of death is simple and one dimensional. It is conceptually easy to understand and is a well-accepted measure of mortality. The initiating cause of death is identified and thereby made more useful to public health officials in developing measures to prevent or delay the chain of events leading to death.

The Sixth Revision of the ICD introduced the present concept for coding underlying causes of death as a means of (a) giving medical practitioners basic responsibility for identifying the underlying cause of death and (b) standardizing classifications that contribute to uniform, descriptive, and meaningful mortality medical statistics among countries.⁴

Yet, despite the many advantages of the underlying cause of death as a statistical tool, researchers and administrators in the health field have recognized certain limitations of the underlying cause as a statistical basis for conveying comprehensive mortality medical statistics in the United States.

First, when multiple chains of diseases exist and each has its own initiating condition, only one disease is selected as the underlying cause of death unless the structure of ICD and related coding rules permit the diseases to be combined for coding purposes. Second, when the morbid disease process is not well defined, selection of the underlying cause of death may in fact be somewhat arbitrary. Third, the underlying cause-of-death statistic, by definition, excludes information

pertaining to the immediate cause of death, contributory causes, and those causes that intervene between the underlying and immediate causes of death. Fourth, the underlying cause identified through application of the selection and modification rules can differ from the condition stated by the certifier to be the underlying cause of death. And fifth, the selection and modification rules include no provision for classifying the nature of injury as the underlying cause. Instead, the underlying cause is restricted to the external cause of injury.

The significance of the above limitations becomes more apparent in light of the changing health profile of the U.S. population over the last few decades. As a modern industrialized nation, we have passed through what Abdel Omran described as the epidemiological transition that usually accompanies socioeconomic modernization.^{5,6} A major aspect of that transition is the increasing prevalence of mortality from chronic diseases, in contrast with an earlier era when acute and infectious diseases dominated our mortality profile. We would expect to find increasing proportions of deaths due to chronic causes, characterized by the existence of a number of conditions at time of death.⁷

The limitations of the underlying-cause concept and the pressing need for more comprehensive medical data in epidemiological and morbidity research suggested that despite the costs and analytical problems, there should be a coding and tabulation of all causes listed on the death certificate on an ongoing basis. It was evident that such a multiple cause-of-death program would be invaluable in (a) portraying the number of deaths in which a given disease is a significant factor and (b) deciphering the interaction of diseases.⁸

By 1968, conditions other than the underlying (or principal) cause of death had been coded five times since 1900 at the national level. The underlying (or principal) cause of death and one associated cause were coded in 1917, 1925, 1936, and 1940. In 1955, up to five conditions were coded.⁹⁻¹³

Analysis and publication of the pre-1955 data were limited. Selective papers were presented at meetings such as the American Public Health Association’s annual meeting in 1923. The annual vital statistics publications devoted one table each to the 1917, 1925, and 1940 data that showed cross tabulation of the underlying cause of death and contributory causes. Two separate reports on the 1936 data were published, but they were limited to abbreviated cause lists rather than to detailed sets of tables.

The 1955 study, prepared under the supervision of Iwao M. Moriyama, represented a landmark achievement in the

multiple cause-of-death field and remains the most comprehensive body of published national multiple cause-of-death data available. It was the first time that multiple-cause statistics had been published in a separate volume. They were published as a supplement on multiple causes of death to the *Vital Statistics of the United States, 1955*.¹³ The 1955 publication represented a time-consuming effort complicated by the limited capability of the data-processing equipment of that era. The basis for the study was a 50-percent sample reduced to a 20-percent sample for parts of the report.

Concurrent with national efforts in the multiple-cause field, State and private groups, including Metropolitan Life Insurance Company and the health departments of California, Tennessee, Illinois, and New York City,¹³⁻¹⁵ carried out a number of parallel efforts.

Despite the limited nature of work in the multiple cause-of-death field over 7 decades, the cumulative literature in the field resulting from these diverse efforts was sufficiently important to provide both the incentive and some basic guideposts to initiate an ongoing national multiple cause-of-death program in the late 1960's. By that time, the advanced state of computer technology provided the capability to conduct a multiple cause-of-death program at the national level.

A most important factor contributing to implementation of a full-scale multiple cause-of-death statistics program in the United States was modernization of the mortality statistics data system in 1968. The principal element of this change was the shift from coding only the underlying cause of death to coding all conditions on the death certificate and the related introduction of an automated system for determining the underlying cause of death from the coded conditions. This new system was called ACME for Automated Classification of Medical Entities.¹⁶

From 1968 forward, NCHS has coded all conditions reported on death certificates. Using the 1968 data, NCHS prepared experimental multiple cause-of-death tabulations. Robert A. Israel and Robert Armstrong reported preliminary results of this work to an international conference in 1973.¹⁷ Except for this, until 1977, NCHS principally limited its use of the ACME data to automated assignment of the underlying cause of death.

Exploratory work began in 1975, and in 1977-78 the Center assigned resources to develop analytical and data retrieval methodology complementary to the multiple cause-of-

death data base generation activities of the late 1960's. Leading to this development, NCHS sponsored a conference in 1976 to examine approaches to making available national multiple cause-of-death statistics from the ACME data.¹⁸ Organized by the Center for Demographic Studies at Duke University, approximately 60 persons representing national, State, and international vital statistics programs; the health research community; public health environmental research agencies; and academic interests attended the conference. After that, the NCHS effort focused primarily on ascertaining the most appropriate form and manner in which to tabulate, analyze, and disseminate multiple cause-of-death data. By late 1978, three basic principles were agreed upon.^{7,19-20}

- Multiple-cause data should be viewed as a major dimension of the ongoing annual mortality medical statistics program. It should not replace the underlying-cause data; this traditional measure of mortality is essential for trend statistics and comparability with other countries and is most useful as a one-dimensional indicator of the condition that initiated the events leading to death.
- Two broad kinds of multiple-cause data utilization should be provided for:
 - a. Utilization oriented toward examination of etiological relationships among conditions that require a faithful and exact recording of each condition and its placement within the cause-of-death statement.
 - b. Utilization oriented toward the number of death certificates on which a condition is mentioned, irrespective of whether it is the underlying cause of death.
- There should be access to the richness of detail contained in the multiple-cause data (and geographic and demographic control variables) in forms that promote analysis of the data in a cost-effective manner with minimal restrictions in terms of predefined variables.

Operating within the framework of these general principles, NCHS undertook several initiatives. One such initiative was to implement a public-use-tape release program to disseminate multiple-cause data for the entire 1968-78 period, the years for which all causes had been coded for use with ACME. To generate this data base, the Center developed and implemented the TRANSAX system, the subject of this report. The following sections discuss this system in detail.

The need for TRANSAX

The classification problem

Despite the general consensus that there was a need to produce statistics on multiple causes of death, the question of how to code medical conditions on death certificates to best present the array of reported diseases and conditions has been a complicated, difficult issue surrounding most multiple cause-of-death studies. As late as 1972, Israel, Templeton, and Evans¹⁶ identified this as a major unresolved problem in successfully implementing an ongoing multiple cause-of-death statistical program.

It has been recognized that the *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death (ICD-9)* or its predecessor, the *International Classification of Diseases, Adapted for Use in the United States (ICDA-8)*—joint references hereafter referred to as the “ICD”—should be used as the classification system and structure. However, approaches have differed in the manner and extent to which combination categories contained in the ICD are to be applied.

In their 1955 multiple-cause study, Moriyama, Guralnick, and others¹³ used combination categories as specified by the ICD only to the extent that no significant detail was lost.

The World Health Organization in 1969, and again in 1974, considered the problem and recommended for both morbidity and mortality multiple-condition coding that combination categories be employed, thus accepting the loss of detail accompanying this method. They noted that the French had taken this approach also.

In a special evaluation project carried out for NCHS, researchers at Duke University recommended that the components of conditions (for example, arteriosclerosis and nephritis for the condition arteriosclerotic nephritis) be identified wherever possible, even if the ICD provides for combination of the categories into one code.¹⁸

When NCHS began coding multiple causes of death in 1968, conditions were generally coded as reported, using combination categories only if the term was reported in that manner (for example, emphysematous bronchitis).²¹ However, for a select list of conditions of special interest for statistical analysis (like arteriosclerotic cerebrovascular disease), the combination category as well as components of the conditions were coded. NCHS later abandoned coding of components of conditions reported as a combined entity (see below).

The issues in classifying multiple cause-of-death data are complex, and the course of action chosen has extensive ramifications for the value, character, standardization, and level

of specificity of multiple-cause data. In considering how to prepare its multiple-cause data for release, NCHS considered three alternatives. These are contrasted in the following examples, using codes from the Eighth Revision of the International Classification of Diseases, Adapted.

- *Alternative 1: Use of combination categories where provided in ICD*—Under this approach, if both “cardiac edema” and “hypertension” are reported on a certificate, then combination code No. 402 (Hypertensive heart disease) is assigned instead of separately coding No. 427.0 (Congestive heart failure) and No. 401 (Essential benign hypertension).^a

If “hypertension” and “acute myocardial infarction” are reported on the same certificate, then No. 410.0 (Acute myocardial infarction with hypertensive disease) is coded instead of No. 401 (Essential benign hypertension) and No. 410.9 (Acute myocardial infarction without mention of hypertensive disease).

If “chronic bronchitis” is reported due to “emphysema,” then only No. 491 (Chronic bronchitis) is coded instead of No. 491 (Chronic bronchitis) and No. 492 (Emphysema).

- *Alternative 2: Code components of conditions*—Using this approach, the code for “arteriosclerotic nephritis” is No. 440.9 (Arteriosclerosis, generalized and unspecified) and No. 583 (Nephritis, unqualified), thereby identifying each component of the entity (arteriosclerosis and nephritis). The code is not No. 403 (Hypertensive renal disease), the category to which arteriosclerotic nephritis is indexed. This, of course, creates an apparent contradiction between codes concerning the presence of nephritis related to arteriosclerosis.

“Diabetic coma” is coded to No. 250.9 (Diabetes mellitus without mention of acidosis or coma) and No. 780.0 (Coma and stupor) instead of No. 250.0 (Diabetes mellitus with mention of acidosis or coma). As in the previous example, this produces a contradiction between codes concerning the presence of coma related to diabetes.

- *Alternative 3: Code conditions as reported*—An alternative to the above extremes is to code the information, entity by entity, based on the way it is reported. For example, if the certificate shows “influenzal pneumonia” as a cause

^aAccording to convention, decimal points are used in ICDA-8 to separate the third and fourth digits of a 4-digit code. No decimal point is used with a 3-digit code.

of death, then this may be treated as an entity and assigned the code for the combination category No. 471 (Influenza with pneumonia). If the certificate shows the terms separately ("influenza" and "pneumonia"), then they may be treated as two entities and assigned separate codes, No. 470 (Influenza, unspecified) and No. 486 (Pneumonia, unspecified).

Likewise, if the certificate shows "arteriosclerotic cerebrovascular disease" as a cause of death, then code No. 437.9 (Generalized ischemic cerebrovascular disease without mention of hypertension) may be assigned. If the certificate shows "cerebrovascular disease" due to "arteriosclerosis," then separate codes, No. 438.9 (Other and ill-defined cerebrovascular disease without mention of hypertension) and No. 440.9 (Arteriosclerosis, generalized and unspecified) may be assigned, despite the fact that ICD treats both reportings as arteriosclerotic cerebrovascular disease (No. 437.9).

The first approach is true to the basic intent of the ICD but sacrifices some specificity in the coding and confounds application of the WHO rules to select the underlying cause of death. The second approach exploits the ICD code structure to extract the maximum coded detail out of each condition. However, under this approach, certain ICD titles are not literally correct and occasionally contradictions appear among codes on a record. The third approach is easy to use but it may create a different set of codes for a combination of terms that are regarded as equivalent in ICD. These considerations and a desire to meet a wide variety of user needs led to the following actions:

- For purposes of research into etiological relationships among diseases, for evaluation of the certification process and rules for underlying-cause coding, and for accurate automated selection of the underlying cause of death, each entity and its placement is coded without being combined with other conditions (entities) and, in fact, with only the minimum regard to other reported conditions necessary to reflect the intent of the certifier. In the multiple cause-of-death data system, the name for this set of multiple-cause codes is *entity axis multiple-cause data*. This action reflects the decision to implement above alternative 3.
- For tabulations of person-based, multiple-cause data, a set of multiple-cause codes is created for each death, employing combination categories. The name for this set of multiple-cause codes is *record axis multiple-cause data*. The record axis provides multiple-cause data comparable to the underlying-cause data, with maximum practical adherence to WHO recommendations. At the same time, the record axis yields the most accurate, standardized set of codes reflecting the cause-of-death statement. This action reflects the decision to implement alternative 1.
- Codes in ICDA-8 for components of entities are not available either for tabulation by NCHS or on public use tapes; moreover, NCHS is not coding components of entities under ICD-9. This is because the coding of components of entities in a manner that attempts to "wring" the utmost detail out of the cause-of-death statement is

inconsistent with the basic structure of the ICD and the classification principles by which terms are indexed. Furthermore, based on NCHS experience to date, an all-inclusive list of terms for which components are coded is difficult to define and even more difficult to follow in coding, rendering it marginally useful. To the limited extent that entity components were coded in ICDA-8, they have proven to be unwieldy in counting conditions and in interpreting data. This action reflects the decision not to implement above alternative 2.

The entity axis data are obtained by reformatting and editing the data originally coded as input to the ACME system. The record axis data could be generated either through alternative manual coding procedures, which are costly and unwieldy, or by converting the entity data by computer. NCHS chose the computerized approach by developing the TRANSAX system, which translates the multiple-cause codes assigned for input to the ACME system from an entity axis of classification to a record axis of classification.

System background, development, application, and benefits are discussed in the following sections. They provide detailed information on the logic employed in the translation, the nature of relationships included in the system, and the system's performance statistics.

Characteristics of entity coding

The condition codes assigned for input to ACME utilize what is called an entity axis of classification. That is, each condition (entity) and its placement in the certification are coded with minimum regard to other conditions on the certification. Essentially, this means that entity coding does not employ the linkage provisions of the ICD. However, selecting the code for each entity that best reflects the intent of the certifier takes into account the entire certification.

For example, under ICDA-8, "starvation" is coded to No. N994.2 (Effects of hunger). However, when reported due to an internal injury such as a crushed abdomen, it is coded to No. 269.9 (Other nutritional deficiency, other and unspecified), which includes malnutrition. Similarly, "thrombosis" when reported due to "trauma" is coded to No. N995.3 (Certain early complications of trauma, Traumatic aneurysm and arterial injury) rather than to No. 453 (Other venous embolism and thrombosis).

The purpose of entity coding is twofold. First, it is essential for accurate, automated selection of the underlying cause of death from the condition codes; and second, entity codes capture the most comprehensive coded representation of the cause-of-death certification including statement and placement of conditions.

Entity coding is not suitable for routine tabulation and analysis of multiple-cause, person-based data. As suggested earlier, in some categories, entity-based data may contain contradictions and inaccuracies when one views the conditions within the context of the certification as a whole. For example, entity coding of the condition "acute myocardial infarction" yields ICDA-8 code No. 410.9 (Acute myocardial infarction

without mention of hypertensive disease). Yet, the same certificate (possibly on another line) may contain "hypertension," for which the code is No. 401 (Essential benign hypertension). Within the framework of entity coding, the interpretation of code No. 410.9 is that the *codable entity* itself contained no mention of hypertensive disease rather than that the certificate does not anywhere mention hypertensive disease. From the perspective of the certificate as a whole, a preferable code is No. 410.0 (Acute myocardial infarction with hypertensive disease) when hypertension is present on the record, and No. 410.9 (Acute myocardial infarction without mention of hypertensive disease) when hypertension is not present on the record.

Similarly, under ICDA-8 the entity code for "meningitis" stated due to "tuberculosis" is No. 320.9 (Meningitis with no organism specified as cause) and No. 011.9 (Pulmonary tuberculosis NOS). A preferable code for tabulation purposes would be No. 013.0 (Tuberculous meningitis), based on the traditional assumption that the "due to" statement indicates the individual had tuberculosis of the meninges instead of the lungs.

In addition to problems that are created by the failure to use combination categories, there are two other serious limitations to the use of entity axis data for person-based tabulation of multiple cause-of-death data. First, a more accu-

rate code can often be assigned to a condition if it takes other conditions on the certificate into account. For example, if the certificate reports "endocarditis" due to "rheumatic heart disease," the entity axis code would be No. 394.9 (Diseases of mitral valve not specified as rheumatic) and No. 398 (Other heart disease, specified as rheumatic), respectively. For person-based tabulation, it is more appropriate to *modify* code No. 394.9 to No. 394.0 (Diseases of mitral valve specified as rheumatic). This acknowledges the obvious rheumatic presence in the endocarditis despite the fact that the physician failed to specifically state so.

Secondly, the set of entity axis codes for a certificate may contain two or more codes for essentially the same condition—some of which may be more specific than others. For example, if the certificate shows both "cancer" and "cancer of the brain," the entity axis codes would be No. 199.1 (Malignant neoplasm without specification of site, other) and No. 191 (Malignant neoplasm of the brain), respectively. For person-based tabulation, the less specific code (No. 199.1) would be *deleted* from the record.

Though the entity data are invaluable in their intended applications, these few examples illustrate that recoding of the entity data prior to tabulation and analysis is essential to the creation of harmonious multiple-cause data for person-based analysis.

TRANSAX system design

Axis translation table

As suggested in the preceding section, NCHS designed TRANSAX to identify three types of relationships or linkages^b between each pair of entity axis codes on a record:

- *Combinations*—The two ICD codes should be combined to eliminate contradictions and to standardize data into an ICD combination category.
- *Modifications*—One of the ICD codes should be modified to a more accurate code based on information contained in the other code.
- *Deletions*—One of the ICD codes should be deleted because it is less specific than or contradicts the other code.

Key components of the design of TRANSAX were the collection and tabulation of all possible pairs of ICD codes appropriate to each of the above relationships. Fortunately, ICDA-8 and the documentation of the ACME system contained most of this body of knowledge. However, because the rationale for many relationships was not explicitly documented and was rarely encountered in coding, nosologists had to search the available medical literature to make an informal decision on the relevance of a given pair of codes to TRANSAX. Nosologists found some code pairs to be relevant to the ACME system but not to TRANSAX. They identified others through research to be missing from and not relevant to ACME but necessary for the TRANSAX system.

The result was a table containing approximately 7,000 pairs of entries (each linking a pair of codes in ICDA-8), which can be categorized into one of three distinct types of relationships based on the character of the action being taken. Again, combinations, the first type, identify pairs where both codes combine into a third code. Modifications identify pairs where one code remains intact but effects conversion of the other code into a third code. Deletions identify pairs where only one code of the pair is retained.

Within the first two types, there is a further division of the table entries into those which are applicable only if the codes are in a specified “due to” relationship and those which are applicable regardless of location in the cause-of-death statement. These are called “due to” and “mention of” relationships, respectively. This distinction is necessary to reflect the intent of the certifier and to follow the conventions of ICDA-8 and the rules for underlying-cause coding.

^bAs used herein, “linkage” is not totally synonymous with its use in underlying-cause coding.

In creating table entries, codes are grouped together in spans where possible. This approach reduces the overall number of final table entries by approximately 45 percent. The table with spans contains a total of approximately 4,000 entries, of which 79 percent are combination entries, 8 percent are modification entries, and 14 percent are deletion entries. “Due to” entries number approximately 900, and there are approximately 3,000 “mention of” entries.

Appendix A contains the axis translation table applied to 1968-78 data.^c The definitions of terms and labels used in appendix A are as follows:

Entry number—This is the line number of the entry in the tables, given in sequential order; it allows one to relate specific entries to information given in appendixes B and C.

Anchor code (A)—The code that is being combined, modified, or deleted.

Subanchor code (S)—The code (or span of codes) that can invoke combination, modification, or deletion of the anchor code.

Recode—The new code resulting from the relationship, if any (see below).

Ambivalent flag—Flags “1” to “5” in this column indicate that the particular relationship is ambivalent (*AMB*) in nature. In other words, the application of the relationship cannot be determined on the basis of the code numbers alone. Application is valid only for certain specified terms in ICDA-8 that are assignable to the codes, and this can be determined only by reference to the original source document, the death certificate. The system contains special provisions to handle these entries without such costly reference to source documents. The specific rules are as follows:

- a. If the underlying cause of death is the same as the recode for combination- and modification-type relationships or the same as the subanchor for deletion-type relationships, the relationship is invoked on the basis that the underlying-cause modification process originally invoked that same relationship.
- b. If the underlying cause of death is the same as either the anchor code or subanchor code for combination- and modification-type relationships or the same as the anchor code for a deletion-type entry, the relationship is not invoked on the basis that the underlying-cause modification process did not invoke the relationship.

^cICDA-8 codes in appendixes A through E have been printed without decimals. All 4-digit codes should be read with a decimal point between the third and fourth digits; for example, 4409 means 440.9.

- c. If neither of the above situations exist, then the relationship is invoked with a given probability, depending on the value of the *AMB* flag:

<i>AMB</i> flag	Probability of invoking relationship	Invoke when sequence number ends in—
1	0.10	5
2	0.40	1, 3, 6, 7
3	0.60	0, 1, 3, 4, 5, 7
4	0.90	0, 1, 2, 3, 5, 6, 7, 8, 9

AMB flag “5” is used in situations where (1) an anchor and subanchor are repeated in a given table, (2) this anchor and subanchor link to different recodes, and (3) one of the recodes must be selected. Flag “5” forces the system to use the most likely recode if the aforementioned rules a and b fail.

The basis for rules a and b exists in the fact that in processing a record, the ACME system uses at least some of the code relationships employed by TRANSAX.¹⁶ However, ACME rejects those that are ambivalent and leaves them for a nosologist to review with the source record and to assign an underlying cause of death. Thus, because the final underlying cause of death reflects source record review, TRANSAX can use this as a basis for deciding whether to invoke some of the ambivalent relationships.

The remainder of the cases are governed by rule c wherein the ambivalent flag reflects a “best guess” based on the opinion of expert nosologists as to the relative frequency with which a given relationship would typically be invoked. There are 1,200 ambivalent entries in the tables.

Type—The following abbreviations describe the character of the particular relationship.

- COM—DUE TO: Anchor code and subanchor code are *combined* into a third code based on “*due to*” positional relationship where *anchor code* is *due to subanchor code*.
- COM—MENTION OF: Anchor code and subanchor code are *combined* into third code based on “*mention of*” relationship.
- MOD—S DUE TO A: Anchor code is *modified* by subanchor code based on “*due to*” relationship where *subanchor code* is *due to anchor code*.
- MOD—A DUE TO S: Anchor code is *modified* by subanchor code based on “*due to*” relationship where *anchor code* is *due to subanchor code*.
- MOD—MENTION OF: Anchor code is modified by subanchor code based on “*mention of*” relationship.
- DELETION: Anchor code is deleted and subanchor code is retained to preserve specificity or to eliminate a contradiction.

The entries given in appendix A are perhaps most useful in relation to appendixes B (Record axis multiple-cause codes which may have been generated by axis translation and the table entries in which they are located) and C (Entity axis multiple-cause codes which may be changed by axis translation and the table entries in which they are located). In appendix B one can determine the *potential* entity axis components of a given record axis code, that is, linkages that may have given rise to the code. Conversely, in appendix C one can

assess the potential impact of axis translation on a given entity-axis code, that is, linkages that may modify it.

Axis translation logic

The axis translation table provides the action to be taken on each pair of codes but not the logic for creating pairs. The latter is a central, critical issue because a death record can contain many disease conditions (up to 14 codes are allowed, so 91 pairs of codes are theoretically possible) and the medical practitioner may not comply with the format in the cause-of-death section. Thus, relationships can chain together in sequence (for example, two codes combine into a third code which then relates to another code), creating secondary, tertiary, and higher level relationships. Yet, at the same time, contradictions among codes must be avoided in the process of translating the axis of classification.

The examination of all codes on the record is the basis of the logic of TRANSAX. This examination treats each code as an anchor code, deciding whether it is influenced or modified by any other code on the record. An ordering algorithm controls the order of selection of anchor codes and the sequence of searching for codes to modify it. This algorithm also defines “due to” and “mention of” criteria and the approach for sequential relationships that chain together.

In carrying out axis translation on a particular death record, the program software successively examines each code on the record and determines whether it (the anchor code) should be combined with or modified by any other code (subanchor code) on the record. The examination process starts with the code furthest left on the highest used line of the certificate. That code is successively paired with other codes *in a predefined priority order* until a combination or modification is made. Once a combination or modification is made, the new code (recode) is substituted for the original anchor code, and this recode is similarly paired with other codes on the record.

The process continues until all possible combination and modification relationships with the original anchor or its substitute are exhausted. Then the process is repeated using the remaining codes in the record as anchor codes until all of the original codes have been utilized. At the conclusion of all combination and modification relationships, deletion relationships are invoked whereby an anchor code may be deleted and a subanchor code retained. Repetitive codes are also deleted. Each record axis code is then written to the output tape file.

Though the specific order of application of the rules is sometimes arbitrary and seldom makes a difference in the translation, the logic is standardized with a given order of rule application. This ordering is designed to be consistent with the cause-of-death certification, in which the immediate cause is given above intervening causes, and these are placed above the underlying cause of death. Within a given line, the assumption is that the certifier has placed the more significant condition at the beginning of the line. In applying the table entries, combinations have priority over modifications, which are more important than deletions.

Within each of these types, “due to” relationships have priority over “mention of” relationships because they are

synonymous with adjectival modifiers. Anchor codes are selected in the priority order of the first listed on the record (line 1, code 1) to the last listed on the record (line 5, code 14).^d

Other codes on the record are paired with the anchor code as a subanchor in the following priority order:

- To the right on same line as anchor.
- Next lower line and across it, left to right.
- And so forth—to part II (line 5).
- Then back to line 1, 2, and so forth, until anchor code is again reached.

When a subanchor code combines with an anchor code, that recode cannot serve as a future subanchor code. This rule eliminates generation of superfluous relationships involving the same set of codes.

A basic consideration in axis translation is the definition of “due to” relationships. Axis translation in TRANSAX employs a slightly different definition than the one used in ICD for underlying cause-of-death classification. Axis translation considers every code on a given line in part I of the certification in a “due to” relationship to every code on the next lower line of part I.

- I(a) 7, 5, 6
- (b) 4, 3, 9
- (c) 11, 15

In the above example, illustrative codes 7, 5, 6 are all in a “due to” relationship to code 4. They are also in a “due to” relationship to codes 3 and 9. Codes 4, 3, 9 are all in a “due to” relationship to both codes 11 and 15.

Axis translation and underlying cause use the same “due to” definition up to this point. However, underlying cause-of-death coding goes a step further. If there is only one code on the lowest used line in part I, every code on every line above it is in a “due to” relationship to the code on the lowest used line. This is a deliberate effort to accept the physician’s stated underlying cause as the “selected underlying cause of death.” Axis translation cannot maintain this as a parallel principle, because axis translation is applied selectively to remove “noise” from entity axis data. If this part of the general rule on “due to” relationships were applied, conditions on line a would be modified by the single condition on line c even if the intervening condition on line b were contradictory.

For example, consider the following hypothetical ICDA-8 certification:

- I(a) Hemiplegia 344.1
- (b) Cerebral hemorrhage 431.9
- (c) Arteriosclerosis 440.9

It is inappropriate to consider, for axis translation, that the arteriosclerosis caused the hemiplegia when the certifier said that the hemiplegia was caused by the cerebral hemorrhage.

^dThe coding rules provide for four lines in Part I of the medical certification and one line in Part II. The extra line in Part I allows for cases where the physician “writes in” an extra line in the medical certification. On a line, up to 14 codes may be assigned; however, the total overall lines are also restricted to 14 codes. When there are more than 14 entities to be coded, the least important entities are ignored.

rhage. The consequences may be even more profound when multiple-condition codes appear successively on single lines of the record.

A “mention of” relationship refers to the combination of a pair of codes or to the modification or deletion of one member of a pair of codes, based on joint presence of the codes on the record (part I and/or part II) irrespective of location within the cause-of-death statement.

To summarize, a given relationship involves either (1) *combination* of both codes in a pair into a new code, (2) *modification* of one code of a pair by the other, or (3) *deletion* of one code of a pair. As an additional constraint, certain relationships, by definition, are valid only if one code is in a “due to” positional relationship (that is, they appear on different but adjacent lines of the certificate) to the other code. Other relationships are valid regardless of their positional relationships. The following examples illustrate each type of relationship in the process.

- *Type 1: Combining two codes into one code*—If ICDA-8 No. 410.9 (Acute myocardial infarction without mention of hypertensive disease) is *mentioned with* No. 401 (Essential benign hypertension), replace codes 410.9 and 401 with code 410.0 (Acute myocardial infarction with hypertensive disease).

If No. 320.0 (H. influenzae meningitis) is reported *due to* No. 011.9 (Pulmonary tuberculosis NOS), replace codes 320.0 and 011.9 with 013.0 (Tuberculous meningitis).

- *Type 2: Modifying one code based on the presence of another*—If No. 394.9 (Diseases of mitral valve not specified as rheumatic) is mentioned with No. 398 (Other heart disease, specified as rheumatic), modify code 394.9 to 394.0 (Diseases of mitral valve specified as rheumatic) and keep code 398.

If No. 192.9 (Malignant neoplasm of other parts of the nervous system, site unspecified) is reported *due to* No. 431.9 (Cerebral hemorrhage without mention of hypertension), modify code 192.9 to 191 (Malignant neoplasm of brain) and keep code 431.9.

- *Type 3: Deleting one code based on the presence of another*—If No. 410.9 (Acute myocardial infarction without mention of hypertensive disease) is *mentioned with* No. 410.0 (Acute myocardial infarction with hypertensive disease), delete code 410.9.

If No. 507 (Hay fever) is *mentioned with* No. 493 (Asthma), delete code 507.

If No. 090.9 (Congenital syphilis, unspecified) is *mentioned with* No. 090.0 (Early congenital syphilis, symptomatic), delete code 090.9.

If No. 151.9 (Malignant neoplasm of stomach, part unspecified) is *mentioned with* No. 151.9 (Malignant neoplasm of stomach, part unspecified), delete one of the 151.9 codes.

Putting these procedures together in sorting a record, the text figure illustrates the character of the overall process with specification of each logic step used by TRANSAX in arriving at the record axis code set.

Figure

ENTITY AX.:	10141090	20143390	20243490	20341230	501401	0
ANCHOR CODE	QUERY					RESULTS
#	L#	C#	CODE	L#	C#	
1	4109	1 01	IN DUE TO COMBINATION TABLE-1			YES
			4339 2 01 IN SAME TABLE WITH ANCHOR CODE			NO
			4349 2 02 IN SAME TABLE WITH ANCHOR CODE			NO
			4123 2 03 IN SAME TABLE WITH ANCHOR CODE			NO
			IN MENTION OF COMBINATION TABLE-2			YES
			4339 2 01 IN SAME TABLE WITH ANCHOR CODE			NO
			4349 2 02 IN SAME TABLE WITH ANCHOR CODE			NO
			4123 2 03 IN SAME TABLE WITH ANCHOR CODE			NO
			401 5 01 IN SAME TABLE WITH ANCHOR CODE			YES, RECODE= 4100
REV. CODES:	1014109N	20143390	20243490	20341230	501401	N
2	4100		IS NOT AN ANCHOR CODE IN TABLES 1-5			
3	4339	2 01	IN DUE TO COMBINATION TABLE-1			TABLE NOT APPLICABLE
			IN MENTION OF COMBINATION TABLE-2			YES
			4349 2 02 IN SAME TABLE WITH ANCHOR CODE			NO
			4123 2 03 IN SAME TABLE WITH ANCHOR CODE			NO
			401 5 01 IN SAME TABLE WITH ANCHOR CODE			YES, RECODE= 4330
REV. CODES:	1014109D	2014339N	20243490	20341230	501401	N
4	4330		IN DUE TO COMBINATION TABLE-1			TABLE NOT APPLICABLE
			IN MENTION OF COMBINATION TABLE-2			YES
			4349 2 02 IN SAME TABLE WITH ANCHOR CODE			NO
			4123 2 03 IN SAME TABLE WITH ANCHOR CODE			NO
			4109 1 01 IN SAME TABLE WITH ANCHOR CODE			NO
			IN DUE TO MODIFICATION TABLE-4			TABLE NOT APPLICABLE
			IN REVERSE DUE TO MODIFICATION TABLE-3			NO
			IN MENTION OF MODIFICATION TABLE-5			NO
5	4349	2 02	IN DUE TO COMBINATION TABLE-1			TABLE NOT APPLICABLE
			IN MENTION OF COMBINATION TABLE-2			YES
			4123 2 03 IN SAME TABLE WITH ANCHOR CODE			NO
			401 5 01 IN SAME TABLE WITH ANCHOR CODE			YES, RECODE= 4340
REV. CODES:	1014109D	2014339D	2024349N	20341230	501401	N
6	4340		IN DUE TO COMBINATION TABLE-1			TABLE NOT APPLICABLE
			IN MENTION OF COMBINATION TABLE-2			YES
			4123 2 03 IN SAME TABLE WITH ANCHOR CODE			NO
			4109 1 01 IN SAME TABLE WITH ANCHOR CODE			NO
			4339 2 01 IN SAME TABLE WITH ANCHOR CODE			NO
			IN DUE TO MODIFICATION TABLE-4			TABLE NOT APPLICABLE
			IN REVERSE DUE TO MODIFICATION TABLE-3			NO
			IN MENTION OF MODIFICATION TABLE-5			NO
7	4123	2 03	IN DUE TO COMBINATION TABLE-1			TABLE NOT APPLICABLE
			IN MENTION OF COMBINATION TABLE-2			YES
			401 5 01 IN SAME TABLE WITH ANCHOR CODE			YES, RECODE= 4121
REV. CODES:	1014109D	2014339D	2024349D	2034123N	501401	N
8	4121		IS NOT AN ANCHOR CODE IN TABLES 1-5			
TEM R/A CD:	401 D	4100R	4109D	4121R	4123D	4330R 4339D 4340R 4349D
9	4100		IN DELETION TABLE-6			NO
10	4121		IN DELETION TABLE-6			NO
11	4330		IN DELETION TABLE-6			NO
12	4340		IN DELETION TABLE-6			NO
RECORD AX.:	41000	41210	43300	43400		

Imputation of external cause (E) codes to which nature of injury (N) codes relate

Under entity axis coding rules for ICDA-8, when one-term entities are given that state or imply cause (E code for external cause of injury) and effect (N code for nature of injury), an N code and an E code are both assigned only for predefined terms given in the instruction manual (see part 2b of the Vital Statistics Instruction Manual series for more information). Otherwise, the comparable E code is not coded in the entity axis field unless the external cause is specifically stated elsewhere on the record. Thus, the E code would be lost unless, by the underlying-cause coding rules, it is imputed to be the underlying cause of death. The lack of such E codes creates problems in analyzing nature of injury and external cause data on a comparable basis.

To overcome these limitations, the axis translation process extends beyond the basic concept described above, generating in the record axis data field the E code to which an N code or group of N codes relate. This is accomplished by the following steps, applied in order:

- If the underlying cause of death is an E code and is not in the record axis field, it is inserted in the record axis field.

- If there is an N code(s) but no E code in the record-axis field, the appropriate E code is inserted according to appendix D. When multiple N codes convert to different E codes, only No. E929 (“Other and unspecified accidents”) is inserted.
- If there are E codes in the categories E930.0–E931.9 or E947, and there are N codes in the categories N820–N959, N980.0–N989.9, or N991.0–N996.9, and no other E code is on the record, then the appropriate E code from appendix D is assigned as above.
- If there are E codes in the categories E911–E912, and there are N codes in the categories N829–N931, N936–N959, N980.0–N989.9 or N991.0–N996.9, and no other E code is on the record, then an E code from appendix D is assigned as above.

These four actions do not completely eliminate the problem, because a maximum of only one E code may be added to the file. However, it does reduce the problem to an acceptable level without having to examine each source record. The need for multiple E codes is estimated to be infrequent, and automatic generation of these codes could produce incompatible E codes within the record axis field.

System development

The axis translation concept, methodology, and system software represent the culmination of approximately one and a half years of research and development. Because the concept is new, the only external standard available to date is the criterion that the resultant person-based multiple cause data must be true to the principles of ICDA-8 and not contradictory to underlying cause-of-death classification. During testing, a small group of hypothetical cases, a 7,000 record control file of all table entries, and approximately 20,000 actual data records from across the ICDA-8 range of codes were used at each stage of review and revision to measure the impact of changes in rules.

In addition, the specifications for systems design included a number of evaluation tables to permit tabular assessment of system performance in both test mode and in ongoing operation. The project team of statisticians, nosologists, and

a computer systems analyst reviewed each problem as it was identified to determine whether basic concepts, nosology rules, or programming was the source of the problem.

Initially, during the system's infancy, the hypothetical cases were sufficient to detect problems because they were of a gross nature. As the system was refined, greater reliance was placed on the control file and actual data records stratified to represent a maximum of the combinations of source data.

The results of the final test of system acceptance were reviewed by appropriate NCHS staff prior to implementation. This included samples of records processed, evaluation tables, and special control total tables designed to compare frequency counts by ICDA-8 category among the underlying cause-of-death, entity axis, and record axis multiple cause-of-death variables. The system was approved for implementation in September 1980.

Performance statistics

The system was first implemented on the 1976 mortality data file. This section reports some performance statistics that resulted from processing that file.

The results given in table 1 indicate that approximately 15 percent of the records in the 1976 annual mortality file were modified to some degree by the axis translation process. On 9 percent of the records, one or more code relationships were invoked. On 6 percent of the records, no code relationships were invoked, but repetitive codes were eliminated.

The "mention of, combination" type entries (see table 2) invoked by far the largest number of code relationships (178,375). The deletion entries and the "mention of, modification" entries were the second and third most frequently used, with 50,429 and 16,457 applications, respectively. The "due to" entries were rarely used. On the average, a translated record was created using 1.43 code relationships (based on a total of 253,363 code relationships invoked out of a total of 177,060 records).

In terms of the ambivalent table entries (see table 3), 39,347 were encountered on 25,037 records. Out of this total, 24,728 (63 percent) were actually invoked as "yes" based on computation of the ambivalent algorithm as described in the discussion of the axis translation tables. This percent varied from 53 to 88 percent among the five types of entries. Of the total ambivalent entries encountered, 59 percent were resolved according to the underlying cause-of-death code and 41 percent were resolved according to the ambivalent code in the TRANSAX tables (see "Axis translation table" section).

As shown in table 4, most of the translated records invoked only one (70 percent) or two (21 percent) of the table entries during processing. Only about 1 percent invoked five or more entries. When multiple entries were employed, they frequently invoked chains of entries where the recode of the first entry related to another code on the record, and the resultant recode also related to a third code, or subsequent codes.

Table 5 depicts the extent to which the TRANSAX process produced a change in the number of codes on a record. A reduction would be expected to the extent that combination and deletion entries were utilized extensively by TRANSAX. By definition, the modification table entries did not produce a reduction in the number of codes on the record. In table 5, each combination of number of entity axis codes and number of record axis codes is also tabulated according to whether a code relationship was invoked.

The tabulation shows that the typical translated record had three codes which, through code combination and deletion,

were reduced to two codes. By definition, records containing only one code cannot invoke a table entry. For records containing two or more original codes, the percent of records with one or more table entries invoked varied from 5 percent on records with 2 codes to approximately 42 percent on records with 10 or more codes. On 22 percent of the records invoking a table entry, the number of codes was reduced by at least half the original number; but, 73 percent of the records with a linkage had a reduction of only one code. Eight percent represented no reduction of codes.

There are 1,610 ICDA-8 categories involved in the translation process as an anchor code, recode, or subanchor code in one or more table entries. The remaining 1,618 categories are not used in the axis translation tables, and their frequency counts are not affected except through elimination of repetitive codes. Appendix E lists those categories that are used along with a comparison of their entity axis and record axis frequencies.

Tables 6-8 summarize appendix E and the effect of axis translation on ICDA-8 category counts. These tables contrast entity axis and record axis frequency counts along several major dimensions. First, table 6 indicates that 78 percent of the record axis category counts were within 1 percent of their corresponding entity axis counts (exclusive of repetitive code elimination). Most of these involved very few records relative to the number in the total file.

Two hundred nineteen category counts (14 percent) differed by as much as 10 percent, with 84 categories (5 percent) differing more than 70 percent. Table 7 lists the 50 categories which had an entity axis or record axis frequency greater than 5,000 records and a percent change greater than 5 percent. Almost all categories were in the circulatory and digestive chapters of ICDA-8.

When tabulating multiple cause-of-death data at various aggregate levels of classification (that is, conventional groups of 281 causes, 69 causes, and 34 causes), the differences between entity axis and record axis frequencies were usually substantially reduced; yet substantial differences remained in several categories.

For example, in table 8, which is based on the conventional "69 selected causes" tabulated for U.S. residents in *Vital Statistics of the United States* (exclusive of external cause and nature of injury codes), the extremely large difference in category 410.0, shown previously in table 7, was totally eliminated. Because the TRANSAX table entries convert code No. 410.9 to 410.0 in the presence of No. 401, record axis

and entity axis differences were subsumed by upcoding to the 410 level.

Likewise, the 50-percent decrease in category No. 470 between entity axis and record axis counts was totally subsumed in the 470-474 code grouping. On the other hand, major differences did remain for some code groupings. These included groups 402 (+ 12.39 percent); 404 (+ 12.42 percent); 424, 428 (- 22.36 percent); 420-423, 425-427, 429 (- 5.63 percent); 400, 401, 403 (- 83.72 percent); and 441-448 (- 5.61 percent).

The N- to E-code conversion algorithm, which is carried out separate from and after the translation process, was employed on 19,538 records (see table 9). The purpose of this algorithm is to assure that a comparable E code exists on every record having one or more N codes. Of 1,911,907 records in the 1976 data file, 207,080 records (1 percent) originally had an N code present. Of this group, 5,091 records had an E code but needed an additional one, and 14,447 records had no E code. In 4,640 cases, the appropriate E code was obtained by moving the underlying cause of

death into the record axis field. In the remaining 14,898 records, the E code was added using an N- to E-code conversion table (appendix D). Where a direct one-to-one conversion is possible, this conversion table indicates the appropriate external cause for each nature-of-injury code.

As shown in table 10, there was no difference in the entity axis and record axis frequencies for nature-of-injury code categories. They are neither included in appendix A nor are they affected by the N to E algorithm. This algorithm, however, solely affected the E code frequencies. Although not shown in table 10, the major contribution to the + 20.44-percent change for group "E800-E807, E825-E949" (All other accidents) is from category E887. Use of the conversion table caused this category to be added to more than 14,000 records. The remaining categories in the table were therefore seldom used.

In 245 cases, the residual category E929 was added in order to resolve a conflict between multiple N codes or to impute an E code where direct conversion is not possible.

Software and other data processing characteristics

As shown in appendix F, TRANSAX is part of a larger system of programs for processing NCHS multiple cause-of-death data. Preceding TRANSAX in the system flow are reformat and edit programs, which prepare the data for input to TRANSAX. Also, because multiple-cause processing is on a delayed basis, independent of main-file processing, the source of data to the system is the annual master mortality file containing ACME, geographic, and demographic data variables.

The TRANSAX software is written in PL/1 programming language and contains 1,356 executable statements. Under the optimizing compiler for PL/1, TRANSAX processes approximately 1,500 records per central processing unit minute on the NCHS IBM 370/158 computer. The region size required is 400K. Hardware requirements include a tape drive and

disk drive. The NCHS computer utilizes 6,250 bytes-per-inch tapes along with IBM 3350 disk drives, with TRANSAX using 120 tracks of space on a disk. The space requirement is largely due to the size of the translation tables, which the computer stores in memory during program execution. The tables are stored and read sequentially; however, they are partitioned to facilitate quick access to the needed table entry. Moreover, the program logic is written to minimize unnecessary search time.

The output record created by TRANSAX and subsequently reformatted for release is given in appendix G. This record file serves as the annual NCHS master multiple cause-of-death file for input to tabulation, public use tape, and data retrieval software.

System benefits

In contrast to entity axis data, the record axis data created by TRANSAX have seven major benefits in the tabulation and analysis of person-based multiple cause-of-death data.

1. Provide a common, standardized level of classification—In entity coding, the assignment of one code versus another to a given condition entity may be determined on the basis of the phraseology the certifier employed in describing a disease or diseases. For example, the entity codes for the terms “renal sclerosis” and “hypertension” given on a certificate would be ICDA-8 No. 584 (Renal sclerosis, unqualified) and No. 401 (Essential benign hypertension), respectively. However, the code for the statement “hypertensive renal sclerosis” would be No. 403 (Hypertensive renal disease). From the perspective of ICDA-8 and traditional rules for mortality coding, these two deaths result from essentially the same classifiable disease or disease process and the record axis code for both is No. 403.

Similar arguments can be made that the code for “bronchitis, unqualified” (No. 490) when reported with “emphysema” (No. 492) should be the same as for “chronic bronchitis” (No. 491), and that the codes for “chronic alcoholism” (No. 303.2) and “cirrhosis of the liver” (No. 571.9) should be the same as for “alcoholic cirrhosis of the liver” (No. 571.0).

Through literal application of ICD combination categories, the rules for record axis coding are designed to achieve a common, standardized level of classification despite wide differences in reporting terminology and format.

2. Provide comparability with underlying cause classification—One aspect of entity coding that tends to cause problems in data interpretation is that sometimes (5.79 percent of the time in 1976) the underlying-cause code cannot be found as an entity code. Although this is inevitable because linkages are not used in entity coding, it does render joint analysis of multiple- and underlying-cause data troublesome. Record axis coding overcomes this limitation by invoking the same assumptions, rules, and category definitions that underlying-cause coding employs. The only exception is preference rules, which are not relevant for axis translation.

In almost all cases (99.92 percent in 1976), the underlying cause is a record axis code. Parallelism between the underlying-cause modification tables, the axis-translation tables, and the logic employed in their application promotes the creation of data bases that are analytically compatible. Cases where the code for the underlying cause is not on the record axis represent situations where errors in the coded data make it impossible

to reconstruct a completely harmonious record without contradiction of previously published underlying cause-of-death statistics. Application of TRANSAX does not include reference to the source microfilm.

3. Provide comparability with other data bases—Most coding schemes that employ the ICD literally apply the index and combination categories, assigning codes within the context of the record as a whole, as WHO recommended. Although morbidity classification rules may have a few exceptions and qualifications, they generally adhere to the provisions of the ICD.

Converting the multiple-cause data from an entity axis of classification to a record axis of classification, which embodies combination categories, promotes comparability between the cause-of-death data base and other medical (for example, morbidity) data bases.

4. Promote additivity of the data—In general, person-based prevalence counts for two or more multiple-cause codes cannot be added, because more than one code can be assigned to the same individual. Record axis coding, by creating mutually exclusive categories, allows additivity over the fourth digits of certain categories.

For example, ICDA-8 code No. 410.0 (Acute myocardial infarction with hypertensive disease) and code No. 410.9 (Acute myocardial infarction without mention of hypertensive disease) are additive. One can add the number of deaths with mention of No. 410.0 to the number of deaths with mention of 410.9 to obtain the number of deaths with mention of No. 410. Likewise, No. 250.0 (Diabetes mellitus with mention of acidosis or coma) and No. 250.9 (Diabetes mellitus without mention of acidosis or coma) are additive under record axis coding.

5. Improve accuracy and precision of tabulated data—The translation process improves the accuracy and precision of the coding by removing repetitive codes, resolving contradictions, clearing up ambiguities, making the coding more concise, and by providing person-based codes that are more meaningful for tabulation and analysis.

Examples from ICDA-8 include the translation of entity codes No. 402 (Hypertensive heart disease) and No. 403 (Hypertensive renal disease) to the more concise No. 404 (Hypertensive heart and renal disease); No. 250.9 (Diabetes mellitus without mention of acidosis or coma) and No. 780.0 (Coma and stupor) to a more accurate, noncontradictory code No. 250.0 (Diabetes mellitus with mention of acidosis or coma); No. 303.1 (Alcoholism, habitual excessive drinking)

and No. 571.9 (Cirrhosis of liver unspecified) to a more accurate No. 571.0 (Alcoholic cirrhosis of liver); and No. 011.9 (Pulmonary tuberculosis NOS) causing No. 320.9 (Meningitis with no organism specified as cause) to a presumed No. 013.0 (Tuberculous meningitis).

6. *Facilitate interpretation of the data*—Because record axis coding minimizes the number of exceptions to the classification, interpretation of the data is more manageable. In contrast, accurate interpretation of entity coding generally requires some familiarity with the 200-page NCHS instruction manual.

For example, under ICDA-8 record axis coding, the code for “cystitis” reported due to “tuberculosis” would be

No. 016.1 (Tuberculosis of other urinary organs) as specified in the classification. Under entity coding, the code for the term “cystitis” would be No. 595 (Cystitis) and for “tuberculosis” would be No. 011.9 (Pulmonary tuberculosis, NOS), which is the closest code for the term when entity axis codes are applied without linkage.

7. *Reflect basic WHO recommendations for multiple-cause coding*—In 1969 and 1974, WHO recommended the “linking” method (as employed in TRANSAX) for use in multiple-cause coding. WHO notes that this method is also employed by the French and that the rules are suitable for both morbidity and mortality coding.

System limitations

The major limitation of multiple-cause record axis data in contrast to entity axis data is the loss of detail embodied in the application of certain linkages in the ICD. For example, using ICDA-8, "cerebral hemorrhage" reported with "malignant hypertension" is coded on the record axis to Malignant hypertension with cerebrovascular involvement (No. 400.2).

Loss of detail is unfortunate. And, in fact, the 1955 multiple-cause study utilized a coding scheme that restricted the use of combination categories to those not losing detail. That approach has not been taken in TRANSAX for several reasons. The linkages in the ICD should be viewed as a

whole and either applied or not applied, because the classification was presumably designed with the needs of users in mind. Standardization and comparability with other data sets are compromised when linkages are employed on a selective basis. Finally, the required detail is available in the entity data for applications where loss of detail is a problem.

A secondary limitation of multiple-cause record axis data is that information on location of the codes within the cause-of-death statement is lost. The use of linkages invalidates the placement and order because conditions are combined and modified over all lines of the medical certification.

Application summary

Following comprehensive review, the TRANSAX system was implemented on 1976 data and was used to process the remaining years (1968–78) of mortality data based on ICDA–8. Conversion of the system to ICD–9 was implemented with 1979 data.

NCHS annual multiple cause-of-death data tabulations employ record axis data. However, NCHS tapes and public use tapes contain entity and record axis data and the underlying cause of death and are supported by extensive documentation to assist the user in their processing, tabulation, and interpretation.

Based on the documentation, the user is able to determine which entity axis codes TRANSAX may have modified and conversely which record axis codes TRANSAX may have created. Analytical reports and other in-depth research may utilize entity axis and record axis multiple-cause data and underlying-cause data either in combination or independent of one another as best meets the need of a given research application.

References

- ¹National Center for Health Statistics: *Vital Statistics Instructions for Classifying the Underlying Cause of Death, 1976-78*. Rockville, Md., Dec. 1976.
- ²World Health Organization: *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death*, Vol. 1. Geneva, Switzerland, 1977.
- ³National Center for Health Statistics: *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*. PHS Pub. No. 1693. Public Health Service. Washington. U.S. Government Printing Office, 1967.
- ⁴National Center for Health Statistics: *Comparability of Mortality Statistics for the Seventh and Eighth Revisions of the International Classification of Diseases, United States*. Rockville, Md., Oct. 1975.
- ⁵A. R. Omran: The epidemiological transition, a theory of the epidemiology of population change. *Milbank Mem. Fund Q.* 49(4):509-538, 1976.
- ⁶A. R. Omran: Epidemiological transition in the United States. *Popul. Bull.* (Population Reference Bureau) 32(2), May 1977.
- ⁷H. M. Rosenberg: National multiple cause of death statistics. Paper presented at the 17th Biennial Meeting of the Public Health Conference on Records and Statistics. Washington, D.C., June 5-7, 1978.
- ⁸H. F. Dorn and I. M. Moriyama: Use and significance of multiple cause tabulations for mortality statistics. *Am. J. Public Health* 54(3):400-406, Mar. 1964.
- ⁹*Proceedings of the 9th National Meeting of the Public Health Conference on Records and Statistics*. PHCRS Doc. No. 574. 1962. p.11.
- ¹⁰T. A. Janssen: Importance of tabulating multiple causes of death. *Am. J. Public Health* 30(8): 871-879, Aug. 1940.
- ¹¹L. I. Dublin and G. H. Van Buren: Contributory causes of death—their importance and suggestions for their classification. *Am. J. Public Health* 14(2):100-105, Feb. 1924.
- ¹²National Cancer Institute, D. E. Kruegar: New numerators for old denominators—multiple causes of death. *National Cancer Institute Monograph*, No. 19. Washington, D.C., 1966. pp. 431-443.
- ¹³National Center for Health Statistics: *Vital Statistics of the United States, 1955, Supplemental Mortality Data—Multiple Causes of Death*, Washington, D.C. U.S. Government Printing Office, 1965.
- ¹⁴F. E. Olson, F. D. Norris, L. M. Hammes, and P. W. Shipley: A study of multiple causes of death in California. *J. Chronic Dis.* 15(2): 157-170, Feb. 1962.
- ¹⁵L. Winer, M. T. Bellows, G. H. McAvoy, and E. V. Cohen: Use of multiple causes in the classification of deaths from cardiovascular-renal disease. *Am. J. Public Health* 45(4): 492-501, Apr. 1955.
- ¹⁶R. A. Israel, M. C. Templeton, and M. C. Evans: New approaches to coding and analyzing mortality data. *Proceedings of the American Statistical Association*. 1972. p. 2024.
- ¹⁷R. A. Israel and R. Armstrong: An Alternative Procedure for Classifying and Analyzing Mortality Data. Paper presented at the International Union for the Scientific Study of Population. Liege, 1973.
- ¹⁸G. C. Myers and A. M. Pitts: *Final Report Multiple Cause of Death Statistical Data Development*. Contract No. 230-76-0202-HRA. Duke University Center for Demographic Studies, 1977.
- ¹⁹R. F. Chamblee, M. C. Evans, and H. M. Rosenberg: A national multiple cause-of-death statistical system. *Proceedings of the 1979 Joint Statistical Meetings*. Washington, D.C., Aug. 1979.
- ²⁰R. F. Chamblee and M. C. Evans: A national multiple cause-of-death data system (problems and their solutions through computer applications). *Proceedings of the Third Annual Symposium for Computer Applications in Medical Care*. Oct. 14-17, 1979.
- ²¹National Center for Health Statistics: *Vital Statistics Instructions for Medical Classification of Death Records for Automated Classification of Medical Entities, 1976-78*. Rockville, Md., 1977.

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Table 1. Number and percent distribution of records processed by category of action taken

<i>Action taken</i>	<i>Number of records¹</i>	<i>Percent distribution</i>
Total	1,911,907	100.00
1 or more entries used	177,060	9.26
No entry used, but duplicate codes deleted	112,662	5.89
No entry used, and no codes deleted	1,622,185	84.85

¹Based on processing all deaths occurring in the United States in 1976.

Table 2. Number and percent distribution of entries used (ambivalent and nonambivalent) by type of entry

<i>Type of entry</i>	<i>Number¹</i>	<i>Percent distribution of subtotal</i>	<i>Percent distribution of total</i>
All entries	253,363	...	100.00
Total combined entries	181,787	100.00	71.75
Due to	3,412	1.88	1.35
Mention of	178,375	98.12	70.40
Total modified entries	21,147	100.00	8.35
Due to	4,690	22.18	1.85
Mention of	16,457	77.82	6.50
Deletions	50,429	...	19.90

¹Based on processing all deaths occurring in the United States in 1976.

NOTE: Tabulation is based on the number of entries with multiple entries possible on a record as opposed to the number of records with an entry used.

Table 3. Number and percent of ambivalent entries encountered by type of entry and whether or not used

<i>Type of entry</i>	<i>Number encountered¹</i>	<i>Number used</i>	<i>Percent used</i>
Total	39,347	24,728	62.85
Combination	25,412	13,592	53.49
Due to	1,959	1,277	65.19
Mention of	23,453	12,315	52.51
Modification	3,743	2,217	59.23
Due to	3,444	2,069	60.08
Mention of	299	148	49.50
Deletion	10,192	8,919	87.51

¹Based on processing all deaths occurring in the United States in 1976.

NOTE: Tabulation is based on the number of entries with multiple entries possible on a record as opposed to the number of records with an entry used.

Table 4. Number and percent of records processed through the TRANSAX system and percent of entries used, by number of table entries used per record

	<i>Number of entries used</i>	<i>Number of records¹</i>	<i>Percent of records</i>	<i>Percent of entries used</i>
Total		1,911,907	100.00	...
0		1,734,847	90.74	...
1 or more		177,060	9.26	100.00
1		124,297	6.50	70.20
2		37,436	1.96	21.14
3		10,029	0.52	5.66
4		3,424	0.18	1.93
5		1,183	0.06	0.67
6		475	0.02	0.27
7 or more		216	0.01	0.12

¹Based on processing all deaths occurring in the United States in 1976.

Table 5. Effect of axis translation on the number of distinct codes per record

	<i>Entity axis codes per record</i>	<i>Record axis codes per record</i>	<i>All records¹</i>	<i>Records where a code relationship is invoked</i>	<i>Records where no code relationship is invoked</i>
Total	1,911,907	177,060	1,734,847
01		01	319,229	—	319,229
02		01	30,431	21,087	9,344
02		02	505,435	3,479	501,956
03		01	5,053	4,743	310
03		02	79,042	41,104	37,938
03		03	431,991	4,387	427,604
04		01	832	826	6
04		02	12,399	8,357	4,042
04		03	60,190	33,574	26,616
04		04	227,856	3,196	224,660
05		01	107	107	—
05		02	1,561	1,439	122
05		03	9,707	7,259	2,448
05		04	35,065	19,128	15,937
05		05	97,331	1,828	95,503
06		01	20	20	—
06		02	236	235	1
06		03	1,366	1,254	114
06		04	5,354	4,054	1,300
06		05	16,150	8,617	7,533
06		06	35,667	800	34,867
07		01	—	—	—
07		02	23	23	—
07		03	200	196	4
07		04	895	736	159
07		05	2,629	1,922	707
07		06	6,532	3,408	3,124
07		07	12,382	318	12,064
08		01	—	—	—
08		02	5	5	—
08		03	51	49	2
08		04	158	149	9
08		05	468	380	88
08		06	1,186	820	366
08		07	2,553	1,308	1,245
08		08	4,199	113	4,086
09		01	—	—	—
09		02	3	3	—
09		03	4	4	—
09		04	27	27	—
09		05	108	89	19
09		06	252	199	53
09		07	562	390	172
09		08	1,034	485	549
09		09	1,466	48	1,418
10 or more codes per record	2,146	894	1,252

¹Based on processing all deaths occurring in the United States in 1976.

Table 6. Number and percent distribution of ICDA-8 categories by absolute value of percent of change between entity and record axis frequencies and number of records in category on which entity axis code is mentioned

<i>Number of records on which entity axis code is mentioned</i>	<i>Absolute value of percent of change between entity and record axis frequencies¹</i>						
	<i>Total</i>	<i>Less than or equal to 1 percent</i>	<i>2-5 percent</i>	<i>6-9 percent</i>	<i>10-39 percent</i>	<i>40-69 percent</i>	<i>70 percent or more</i>
Number	1,610	1,250	91	50	107	28	84
Percent distribution	100.00	77.64	5.65	3.11	6.65	1.74	5.22
Less than or equal to 1,000	1,362	1,122	47	33	64	16	80
1,001-2,000	62	39	12	1	6	3	1
2,001-3,000	36	21	7	2	5	-	1
3,001-4,000	25	12	6	-	7	-	-
4,001-5,000	16	10	-	1	4	1	-
5,001-10,000	37	15	8	3	8	2	1
10,001-20,000	35	16	3	5	5	6	-
20,001-30,000	6	4	-	-	2	-	-
30,001-40,000	10	6	-	2	2	-	-
40,001-50,000	3	2	1	-	-	-	-
50,001-100,000	8	2	3	1	1	-	1
100,001 or more	10	1	4	2	3	-	-

¹Based on processing all deaths occurring in the United States in 1976.

NOTES: TRANSAX table categories are the sole basis for the categories shown in this table.

ICDA-8 = *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

Table 7. List of ICDA-8 categories with an entity or record axis frequency of at least 5,000 and percent of change between the entity and record axis frequencies greater than plus or minus 5 percent

<i>ICDA-8 category</i>	<i>Entity axis frequency¹</i>	<i>Record axis frequency¹</i>	<i>Plus or minus percent change</i>	
Malignant neoplasm without specification of site				
Other	199.1	5,569	2,950	-47.0
Diabetes mellitus				
With mention of acidosis or coma	250.0	2,596	5,941	+128.9
Alcoholism				
Alcoholic addiction	303.2	11,389	5,882	-48.4
Other and unspecified alcoholism	303.9	11,171	7,696	-31.1
Other cerebral paralyses				
Hemiplegia	344.1	17,707	16,191	-8.6
Diseases of mitral valve				
Not specified as rheumatic	394.9	6,314	4,041	-36.0
Diseases of aortic valve				
Not specified as rheumatic	395.9	8,921	7,963	-10.7
Essential benign hypertension	401	73,322	7,113	-90.3
Hypertensive heart disease	402	10,825	12,174	+12.5
Hypertensive renal disease	403	12,663	6,088	-51.9
Acute myocardial infarction				
With hypertensive disease	410.0	82	33,139	+40,313.4
Without mention of hypertensive disease	410.9	343,983	310,912	-9.6
Other acute and subacute forms of ischemic heart disease				
Without mention of hypertensive disease	411.9	16,663	15,126	-9.2
Chronic ischemic heart disease				
Chronic ischemic heart disease with or without cardiovascular disease with hypertensive disease	412.1	6,649	42,011	+531.8
Chronic ischemic heart disease with or without cardiovascular disease without mention of hypertensive disease	412.3	468,394	435,126	-7.1
Cardiovascular disease without mention of chronic ischemic disease without mention of hypertensive disease	412.4	105,087	92,222	-12.2
Symptomatic heart disease				
Congestive heart failure	427.0	168,550	158,251	-6.1
Cardiac arrest not otherwise specified	427.2	203,649	192,798	-5.3
Other heart block	427.3	9,082	8,480	-6.6
Atrial fibrillation or flutter	427.4	18,521	17,066	-7.9
Ventricular fibrillation or flutter	427.6	18,452	17,238	-6.6
Other and unspecified disorders of heart rhythm	427.9	32,540	30,384	-6.6
Other myocardial insufficiency	428	16,738	12,585	-24.8
Ill-defined heart diseases				
Cardiac enlargement and hypertrophy	429.0	8,620	7,326	-15.0
Other and unspecified heart disease	429.9	34,880	32,203	-7.7
Subarachnoid hemorrhage				
Without mention of hypertension	430.9	9,162	8,167	-10.9
Cerebral hemorrhage				
With hypertension (benign)	431.0	27	8,507	+31,407.4
Without mention of hypertension	431.9	36,791	27,463	-25.4
Cerebral thrombosis				
Without mention of hypertension	433.9	63,968	59,176	-7.5
Acute but ill-defined cerebrovascular disease				
With hypertension (benign)	436.0	427	16,084	+3,666.7
Without mention of hypertension	436.9	150,866	134,884	-10.6
Aortic aneurysm (nonsyphilitic)				
Unspecified aortic aneurysm	441.9	5,189	4,849	-6.6
Gangrene not elsewhere classifiable	445.9	10,318	4,412	-57.2
Influenza, unqualified	470	10,419	5,218	-49.9
Influenza with pneumonia	471	441	5,292	+1,100.0
Chronic bronchitis	491	7,332	8,869	+21.0
Other diseases of respiratory system				
Acute edema of lung	519.1	11,603	10,670	-8.0
Other diseases of lung	519.2	13,626	7,453	-45.3
Chronic obstructive lung disease without mention of asthma, bronchitis, or emphysema	519.3	53,384	48,226	-9.7
Ulcer of stomach				
Other and unspecified	531.9	5,630	2,754	-51.1
Intestinal obstructions without mention of hernia				
Other and unspecified	560.9	11,941	10,775	-9.8
Peritonitis				
Unspecified	567.9	9,324	8,546	-8.3
Other diseases of intestines and peritoneum				
Other	569.9	31,791	26,927	-15.3

See footnotes at end of table.

Table 7. List of ICDA-8 categories with an entity or record axis frequency of at least 5,000 and percent of change between the entity and record axis frequencies greater than plus or minus 5 percent—Con.

<i>ICDA-8 category</i>	<i>Entity axis frequency¹</i>	<i>Record axis frequency¹</i>	<i>Plus or minus percent change</i>
Cirrhosis of liver			
Alcoholic	571.0	10,011	+ 64.3
Other specified	571.8	9,085	- 20.1
Unspecified	571.9	27,988	- 20.0
Cholecystitis and cholangitis, without mention of calculus	575	5,546	- 30.6
Anoxic and hypoxic conditions not elsewhere classifiable			
Asphyxia of newborn, unspecified	776.9	10,004	- 30.4
Certain symptoms referable to nervous system and special senses			
Coma and stupor	780.0	6,481	- 13.9
Other general symptoms			
Electrolyte disorders	788.0	25,404	- 11.0

¹Based on processing all deaths occurring in the United States in 1976.

NOTES: ICDA-8 = *Eighth Revision International Classification of Diseases, Adapted for Use in the United States.*

Percent of change excludes effect of N to E algorithm.

Table 8. Number of deaths of U.S. residents, by mention of selected entity axis and record axis multiple causes of death, and percent of change

<i>ICDA-8 Category¹</i>	<i>Entity axis²</i>	<i>Record axis²</i>	<i>Percent of change</i>	
Bacillary dysentery and amebiasis	004, 006	71	71	-
Enteritis and other diarrheal diseases	008, 009	4,148	4,099	- 1.18
Tuberculosis, all forms	010-019	10,428	10,428	-
Tuberculosis of respiratory system	010-012	8,962	8,946	-.18
Tuberculosis, other forms	013-019	1,582	1,595	+ .82
Whooping cough	033	10	10	-
Streptococcal sore throat and scarlet fever	034	20	20	-
Meningococcal infections	036	350	350	-
Septicemia	038	42,623	42,599	-.06
Acute poliomyelitis	040-043	110	110	-
Measles	055	19	19	-
Syphilis and its sequelae	090-097	819	819	-
Other infective and parasitic diseases	Remainder of 000-136	13,959	13,918	-.29
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	140-209	429,194	429,194	-
Malignant neoplasms of buccal cavity and pharynx	140-149	9,829	9,829	-
Malignant neoplasms of digestive organs and peritoneum	150-159	114,641	114,936	+ .26
Malignant neoplasms of respiratory system	160-163	99,935	99,935	-
Malignant neoplasm of breast	174	39,203	39,203	-
Malignant neoplasms of genital organs	180-187	56,372	56,372	-
Malignant neoplasms of urinary organs	188-189	21,113	21,113	-
Malignant neoplasms of all other and unspecified sites	170-173, 190-199	203,658	202,687	-.48
Leukemia	204-207	18,993	18,993	-
Other neoplasms of lymphatic and hematopoietic tissues	200-203, 208, 209	25,675	25,675	-
Benign neoplasms and neoplasms of unspecified nature	210-239	8,725	8,712	-.15
Diabetes mellitus	250	134,505	134,505	-
Avitaminoses and other nutritional deficiencies	260-269	29,959	29,874	-.28
Anemias	280-285	27,934	27,934	-
Meningitis	320	3,251	3,196	- 1.69
Major cardiovascular diseases	390-448	1,232,757	1,232,360	-.03
Diseases of heart	390-398, 402, 404, 410, 411-429	988,228	988,582	+ .04
Active rheumatic fever and chronic rheumatic heart disease	390-398	24,121	24,119	-.01
Hypertensive heart disease	402	10,814	12,154	+ 12.39
Hypertensive heart and renal disease	404	4,285	4,817	+ 12.42
Ischemic heart disease	410-413	768,815	770,816	+ .26
Acute myocardial infarction	410	343,601	343,601	-
Other acute and subacute forms of ischemic heart disease	411	16,596	16,596	-
Chronic ischemic heart disease	412	601,902	604,203	+ .38
Angina pectoris	413	3,802	3,802	-
Chronic disease of endocardium and other myocardial insufficiency	424, 428	20,513	15,926	- 22.36
All other forms of heart disease	420-423, 425-427, 429	454,138	428,586	- 5.63
Hypertension	400, 401, 403	85,828	13,971	- 83.72
Cerebrovascular diseases	430-438	305,673	305,460	-.07
Cerebral hemorrhage	431	36,759	35,918	- 2.29
Cerebral thrombosis	433	63,934	63,895	-.06
Cerebral embolism	434	3,685	3,684	-.03
All other cardiovascular diseases	430, 432, 435-438	233,183	234,223	+ .45
Arteriosclerosis	440	215,030	207,587	- 3.46
Other diseases of arteries, arterioles, and capillaries	441-448	55,392	52,286	- 5.61
Acute bronchitis and bronchiolitis	466	2,924	2,843	- 2.77
Influenza and pneumonia	470-474, 480-486	195,701	195,701	-
Influenza	470-474	10,960	10,960	-
Pneumonia	480-486	189,469	184,758	- 2.49
Bronchitis, emphysema, and asthma	490-493	62,626	62,395	-.37
Chronic and unqualified bronchitis	490, 491	11,407	11,193	- 1.88
Emphysema	492	50,307	50,062	-.49
Asthma	493	7,096	7,034	-.87
Peptic ulcer	531-533	17,512	17,391	-.69
Appendicitis	540-543	1,282	1,282	-
Hernia and intestinal obstruction	550-553, 560	20,553	20,553	-
Cirrhosis of liver	571	45,851	46,049	+ .43
Cholelithiasis, cholecystitis, and cholangitis	574, 575	8,498	8,479	-.22
Nephritis and nephrosis	580-584	26,509	26,193	- 1.19
Active nephritis and nephrotic syndrome	580-581	10,109	10,147	+ .38
Chronic and unqualified nephritis and renal sclerosis	582-584	17,323	16,954	- 2.13
Infections of kidney	590	11,811	11,484	- 2.77
Hyperplasia of prostate	600	5,276	5,276	-
Complications of pregnancy, childbirth, and the puerperium	630-678	450	450	-
Abortion	640-645	30	30	-
Other complications of pregnancy, childbirth, and the puerperium	630-639, 650-678	426	426	-
Congenital anomalies	740-759	18,319	18,154	- .90

See footnotes at end of table.

Table 8. Number of deaths of U.S. residents, by mention of selected entity axis and record axis multiple causes of death, and percent of change—Con.

ICDA-8 Category ¹	Entity axis ²	Record axis ²	Percent of change	
Certain causes of mortality in early infancy	760-772,774-778	31,663	31,663	-
Birth injury, difficult labor, and other anoxic and hypoxic conditions	764-768,772,776	19,377	19,377	-
Other causes of mortality in early infancy	Remainder of 760-778	28,405	28,405	-
Symptoms and ill-defined conditions	780-796	386,443	380,798	-1.46
All other diseases	Residual	507,976	489,298	-3.68

¹Categories are comparable to those used in table 1-13 of *Vital Statistics of the United States, Volume 1, 1976* exclusive of external cause and nature of injury category.
²Causes of death based on processing deaths of U.S. residents in 1976.

Table 9. Effect of E-code addition to the TRANSAX file

Processing category	Number of records ¹	Percent total file	Percent total records with N code
Total file	1,911,907	100.00	...
No N-codes on record	1,704,827	89.17	...
One or more N-codes present	207,080	10.83	100.00
Both E-code and N-code present and no additional code required	187,564	9.81	90.58
Additional E-code needed	19,538	1.02	9.44
N-code present but no E-code present	14,447	0.76	6.98
Underlying cause is used as E-code	23	0.00	0.01
E-code is obtained from conversion table	14,424	0.75	6.97
Both E-code and N-code present but an additional E-code is required	5,091	0.27	2.46
Underlying cause is used as the additional E-code	4,617	0.24	2.23
Second E-code is obtained from conversion table	474	0.02	0.23

¹Based on processing all deaths occurring in the United States in 1976.

Table 10. Number of deaths of U.S. residents by mention of selected nature-of-injury and external-cause multiple causes of death

Cause	Entity axis ¹	Record axis ¹	Percent change	
Accidents	E800-E949	138,821	157,444	13.42
Motor vehicle accidents	E810-E823	48,239	48,239	-
All other accidents	E800-E807, E825-E949	91,098	109,722	20.44
Suicide	E950-E959	26,983	26,983	-
Homicide	E960-E978	19,742	19,743	.01
Other external causes	E980-E999	5,149	5,151	.04
All natures of injury	N800-N999	206,434	206,434	-
Fractures, sprains, strains, and dislocations	N800-N848	52,101	52,101	-
Intracranial injuries	N850-N854	46,523	46,523	-
Internal injuries	N860-N869	30,498	30,498	-
Lacerations and open wounds	N870-N907	30,651	30,651	-
Superficial injuries and contusions	N910-N929	2,307	2,307	-
Effects of foreign body, entering through orifice	N930-N939	11,679	11,679	-
Burns	N940-N949	6,982	6,982	-
Injury to nerves and spinal cord	N950-N959	2,595	2,595	-
All other injuries	N960-N999	92,469	92,469	-

¹Based on processing deaths of U.S. residents in 1976.

Appendixes

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APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
0029		0020-0022		DELETION	0001	0380		6429	6420	COM-MENTION OF	0094
0039		0030		DELETION	0002	0380		6431	6432	COM-MENTION OF	0095
0039		0059	0030	COM-MENTION OF	0003	0380		6439	6430	COM-MENTION OF	0096
0049		0040-0048		DELETION	0004	0380		6441	6442	COM-MENTION OF	0097
0059		0030		DELETION	0005	0380		6449	6440	COM-MENTION OF	0098
0059		0039	0030	COM-MENTION OF	0006	0380		6451	6452	COM-MENTION OF	0099
0059		0050-0058		DELETION	0007	0380		6459	6450	COM-MENTION OF	0100
0069		0060		DELETION	0008	0381		6314	6310	COM-MENTION OF	0101
0069		572	0060	COM-MENTION OF	0009	0381		6315	6311	COM-MENTION OF	0102
0083		0080-0082		DELETION	0010	0381		6316	6312	COM-MENTION OF	0103
0089	4	470	473	COM-MENTION OF	0011	0381		6319	6313	COM-MENTION OF	0104
0089	4	474	473	MOD-MENTION OF	0012	0381		6401	6402	COM-MENTION OF	0105
0090		470	473	COM-MENTION OF	0013	0381		6409	6400	COM-MENTION OF	0106
0090		474	473	MOD-MENTION OF	0014	0381		6411	6412	COM-MENTION OF	0107
0091		470	473	COM-MENTION OF	0015	0381		6419	6410	COM-MENTION OF	0108
0091		474	473	MOD-MENTION OF	0016	0381		6421	6422	COM-MENTION OF	0109
0092		470	473	COM-MENTION OF	0017	0381		6429	6420	COM-MENTION OF	0110
0092		474	473	MOD-MENTION OF	0018	0381		6431	6432	COM-MENTION OF	0111
0099		470	473	COM-MENTION OF	0019	0381		6439	6430	COM-MENTION OF	0112
0099		474	473	MOD-MENTION OF	0020	0381		6441	6442	COM-MENTION OF	0113
0110	4	5110	0121	COM-MENTION OF	0021	0381		6449	6440	COM-MENTION OF	0114
0110		515	010	COM-MENTION OF	0022	0381		6451	6452	COM-MENTION OF	0115
0111	4	5110	0121	COM-MENTION OF	0023	0381		6459	6450	COM-MENTION OF	0116
0111		515	010	COM-MENTION OF	0024	0382		486	481	COM-MENTION OF	0117
0112	4	5110	0121	COM-MENTION OF	0025	0382		6314	6310	COM-MENTION OF	0118
0112		515	010	COM-MENTION OF	0026	0382		6315	6311	COM-MENTION OF	0119
0113		0110-0112		DELETION	0027	0382		6316	6312	COM-MENTION OF	0120
0113	4	5110	0121	COM-MENTION OF	0028	0382		6319	6313	COM-MENTION OF	0121
0113		515	010	COM-MENTION OF	0029	0382		6401	6402	COM-MENTION OF	0122
0114	4	5110	0121	COM-MENTION OF	0030	0382		6409	6400	COM-MENTION OF	0123
0114		515	010	COM-MENTION OF	0031	0382		6411	6412	COM-MENTION OF	0124
0115	4	5110	0121	COM-MENTION OF	0032	0382		6419	6410	COM-MENTION OF	0125
0115		515	010	COM-MENTION OF	0033	0382		6421	6422	COM-MENTION OF	0126
0119		0110-0114		DELETION	0034	0382		6429	6420	COM-MENTION OF	0127
0119	4	5110	0121	COM-MENTION OF	0035	0382		6431	6432	COM-MENTION OF	0128
0119		515	010	COM-MENTION OF	0036	0382		6439	6430	COM-MENTION OF	0129
0120		515	010	COM-MENTION OF	0037	0382		6441	6442	COM-MENTION OF	0130
0121		515	010	COM-MENTION OF	0038	0382		6449	6440	COM-MENTION OF	0131
0122		0119	0121	COM-A DUE TO S	0039	0382		6451	6452	COM-MENTION OF	0132
0122		515	010	COM-MENTION OF	0040	0382		6459	6450	COM-MENTION OF	0133
0123		515	010	COM-MENTION OF	0041	0388		6314	6310	COM-MENTION OF	0134
0129		515	010	COM-MENTION OF	0042	0388		6315	6311	COM-MENTION OF	0135
0159		0150-0158		DELETION	0043	0388		6316	6312	COM-MENTION OF	0136
0169		0160-0162		DELETION	0044	0388		6319	6313	COM-MENTION OF	0137
0209		0200-0201		DELETION	0045	0388		6401	6402	COM-MENTION OF	0138
0239		0230-0232		DELETION	0046	0388		6409	6400	COM-MENTION OF	0139
0269		0260-0261		DELETION	0047	0388		6411	6412	COM-MENTION OF	0140
0319	4	5192	0310	MOD-S DUE TO A	0048	0388		6419	6410	COM-MENTION OF	0141
035		6314	6310	COM-MENTION OF	0049	0388		6421	6422	COM-MENTION OF	0142
035		6315	6311	COM-MENTION OF	0050	0388		6429	6420	COM-MENTION OF	0143
035		6316	6312	COM-MENTION OF	0051	0388		6431	6432	COM-MENTION OF	0144
035		6319	6313	COM-MENTION OF	0052	0388		6439	6430	COM-MENTION OF	0145
035		6401	6402	COM-MENTION OF	0053	0388		6441	6442	COM-MENTION OF	0146
035		6409	6400	COM-MENTION OF	0054	0388		6449	6440	COM-MENTION OF	0147
035		6411	6412	COM-MENTION OF	0055	0388		6451	6452	COM-MENTION OF	0148
035		6419	6410	COM-MENTION OF	0056	0388		6459	6450	COM-MENTION OF	0149
035		6421	6422	COM-MENTION OF	0057	0389	0380-0388			DELETION	0150
035		6429	6420	COM-MENTION OF	0058	0389		6314	6310	COM-MENTION OF	0151
035		6431	6432	COM-MENTION OF	0059	0389		6315	6311	COM-MENTION OF	0152
035		6439	6430	COM-MENTION OF	0060	0389		6316	6312	COM-MENTION OF	0153
035		6441	6442	COM-MENTION OF	0061	0389		6319	6313	COM-MENTION OF	0154
035		6449	6440	COM-MENTION OF	0062	0389		6401	6402	COM-MENTION OF	0155
035		6451	6452	COM-MENTION OF	0063	0389		6409	6400	COM-MENTION OF	0156
035		6459	6450	COM-MENTION OF	0064	0389		6411	6412	COM-MENTION OF	0157
0361		0360		DELETION	0065	0389		6419	6410	COM-MENTION OF	0158
0361	4	3209	0360	COM-MENTION OF	0066	0389		6421	6422	COM-MENTION OF	0159
0369		0360-0368		DELETION	0067	0389		6429	6420	COM-MENTION OF	0160
0369		3209	0360	COM-MENTION OF	0068	0389		6431	6432	COM-MENTION OF	0161
037		6314	6310	COM-MENTION OF	0069	0389		6439	6430	COM-MENTION OF	0162
037		6315	6311	COM-MENTION OF	0070	0389		6441	6442	COM-MENTION OF	0163
037		6316	6312	COM-MENTION OF	0071	0389		6449	6440	COM-MENTION OF	0164
037		6319	6313	COM-MENTION OF	0072	0389		6451	6452	COM-MENTION OF	0165
037		6401	6402	COM-MENTION OF	0073	0389		6459	6450	COM-MENTION OF	0166
037		6409	6400	COM-MENTION OF	0074	0390		6314	6310	COM-MENTION OF	0167
037		6411	6412	COM-MENTION OF	0075	0390		6315	6311	COM-MENTION OF	0168
037		6419	6410	COM-MENTION OF	0076	0390		6316	6312	COM-MENTION OF	0169
037		6421	6422	COM-MENTION OF	0077	0390		6319	6313	COM-MENTION OF	0170
037		6429	6420	COM-MENTION OF	0078	0390		6401	6402	COM-MENTION OF	0171
037		6431	6432	COM-MENTION OF	0079	0390		6409	6400	COM-MENTION OF	0172
037		6439	6430	COM-MENTION OF	0080	0390		6411	6412	COM-MENTION OF	0173
037		6441	6442	COM-MENTION OF	0081	0390		6419	6410	COM-MENTION OF	0174
037		6449	6440	COM-MENTION OF	0082	0390		6421	6422	COM-MENTION OF	0175
037		6451	6452	COM-MENTION OF	0083	0390		6429	6420	COM-MENTION OF	0176
037		6459	6450	COM-MENTION OF	0084	0390		6431	6432	COM-MENTION OF	0177
0380		6314	6310	COM-MENTION OF	0085	0390		6439	6430	COM-MENTION OF	0178
0380		6315	6311	COM-MENTION OF	0086	0390		6441	6442	COM-MENTION OF	0179
0380		6316	6312	COM-MENTION OF	0087	0390		6449	6440	COM-MENTION OF	0180
0380		6319	6313	COM-MENTION OF	0088	0390		6451	6452	COM-MENTION OF	0181
0380		6401	6402	COM-MENTION OF	0089	0390		6459	6450	COM-MENTION OF	0182
0380		6409	6400	COM-MENTION OF	0090	043		040	-042	DELETION	0183
0380		6411	6412	COM-MENTION OF	0091	043	2	0970	0949	COM-A DUE TO S	0184
0380		6419	6410	COM-MENTION OF	0092	043	4	0979	0949	COM-A DUE TO S	0185
0380		6421	6422	COM-MENTION OF	0093	043	4	344	040	COM-MENTION OF	0186

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CUDL (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
043	4	344	041	COM-MENTION OF	0187	1039	1	3959	1032	MOD-S DUE TO A	0280
043	4	3481	040	COM-MENTION OF	0188	1039	1	3969	1032	MOD-S DUE TO A	0281
0459		0450-0451		DELETION	0189	1039	1	4109	1032	MOD-S DUE TO A	0282
0459	1	1009	1008	COM-A DUE TO S	0190	1039	1	4119	1032	MOD-S DUE TO A	0283
0509		0500-0501		DELETION	0191	1039	3	4123	1032	MOD-S DUE TO A	0284
0579		050-0578		DELETION	0192	1039	3	4124	1032	MOD-S DUE TO A	0285
0609		0600-0601		DELETION	0193	1039	3	423	1032	MOD-S DUE TO A	0286
065		062-064		DELETION	0194	1039	3	424	1032	MOD-S DUE TO A	0287
0673	4	0670-0672		DELETION	0195	1039	1	427	1032	MOD-S DUE TO A	0288
0689	2	0799	0749	COM-MENTION OF	0196	1039	3	428	1032	MOD-S DUE TO A	0289
070	4	1009	1000	COM-A DUE TO S	0197	1039	3	429	1032	MOD-S DUE TO A	0290
0789		0780-0788		DELETION	0198	1039	3	447	1032	MOD-S DUE TO A	0291
0799	4	0088-0089		DELETION	0199	1039	1	4589	1032	MOD-S DUE TO A	0292
0799	2	0689	0749	COM-MENTION OF	0200	1039	3	7011	1031	MOD-S DUE TO A	0293
0799		480		DELETION	0201	1039	3	7079	1031	MOD-S DUE TO A	0294
0819		0810-0812		DELETION	0202	1179	4	110-1169		DELETION	0295
0839		080-0838		DELETION	0203	1179		1170-1178		DELETION	0296
0840		0840	0848	COM-MENTION OF	0204	1209	2	0090	1201	MOD-S DUE TO A	0297
0840		0841	0848	COM-MENTION OF	0205	1209	2	0091	1201	MOD-S DUE TO A	0298
0840		0842	0848	COM-MENTION OF	0206	1209	2	0092	1201	MOD-S DUE TO A	0299
0840		0843	0848	COM-MENTION OF	0207	1209		0099	1201	MOD-S DUE TO A	0300
0840	4	0844	0848	COM-MENTION OF	0208	1209		1200-1208		DELETION	0301
0841		0840	0848	COM-MENTION OF	0209	1209	4	5192	1202	MOD-S DUE TO A	0302
0841		0841	0848	COM-MENTION OF	0210	1209	4	561	1201	MOD-S DUE TO A	0303
0841		0842	0848	COM-MENTION OF	0211	1209		5639	1201	MOD-S DUE TO A	0304
0841		0843	0848	COM-MENTION OF	0212	1209	4	5641	1201	MOD-S DUE TO A	0305
0841	4	0844	0848	COM-MENTION OF	0213	1209	4	5649	1201	MOD-S DUE TO A	0306
0842		0840	0848	COM-MENTION OF	0214	1209	3	5699	1201	MOD-S DUE TO A	0307
0842		0841	0848	COM-MENTION OF	0215	1209		5902	1200	MOD-S DUE TO A	0308
0842		0842	0848	COM-MENTION OF	0216	1209		5909	1200	MOD-S DUE TO A	0309
0842		0843	0848	COM-MENTION OF	0217	1209	4	5932	1200	MOD-S DUE TO A	0310
0842	4	0844	0848	COM-MENTION OF	0218	1209	4	5935	1200	MOD-S DUE TO A	0311
0843		0840	0848	COM-MENTION OF	0219	1209		595	1200	MOD-S DUE TO A	0312
0843		0841	0848	COM-MENTION OF	0220	1209	4	5960	1200	MOD-S DUE TO A	0313
0843		0842	0848	COM-MENTION OF	0221	1209	4	5961	1200	MOD-S DUE TO A	0314
0843		0843	0848	COM-MENTION OF	0222	1209	4	5969	1200	MOD-S DUE TO A	0315
0843	4	0844	0848	COM-MENTION OF	0223	1209		597	1200	MOD-S DUE TO A	0316
0844	4	0840-0843	0848	COM-MENTION OF	0224	1209		5990	1200	MOD-S DUE TO A	0317
0849		0840-0848		DELETION	0225	1209		5991	1200	MOD-S DUE TO A	0318
0859		0850-0852		DELETION	0226	1209		5992	1200	MOD-S DUE TO A	0319
0869		0860-0868		DELETION	0227	1209	4	5999	1200	MOD-S DUE TO A	0320
0869	4	3209	0868	COM-MENTION OF	0228	1209		601	1200	MOD-S DUE TO A	0321
0869	4	347	0868	COM-MENTION OF	0229	1209	4	602	1200	MOD-S DUE TO A	0322
0869	4	420-4299	0860	COM-MENTION OF	0230	1209		604	1200	MOD-S DUE TO A	0323
0878		0870-0871		DELETION	0231	1209		6074	1200	MOD-S DUE TO A	0324
0879		0870-0878		DELETION	0232	1209		6075	1200	MOD-S DUE TO A	0325
0889		0880-0881		DELETION	0233	1209	4	6079	1200	MOD-S DUE TO A	0326
0907		0903-0905		DELETION	0234	1209		612-614	1200	MOD-S DUE TO A	0327
0909		0900		DELETION	0235	1209	4	6159	1200	MOD-S DUE TO A	0328
0909		0902-0905		DELETION	0236	1209	4	6160	1200	MOD-S DUE TO A	0329
0909		0907		DELETION	0237	1209	4	6162	1200	MOD-S DUE TO A	0330
0909	4	0939	0905	COM-MENTION OF	0238	1209	4	6169	1200	MOD-S DUE TO A	0331
0909		0940	0904	COM-MENTION OF	0239	1209		620	1200	MOD-S DUE TO A	0332
0909		0941	0904	COM-MENTION OF	0240	1209	4	6213	1200	MOD-S DUE TO A	0333
0909	4	0949	0904	COM-MENTION OF	0241	1209	4	6219	1200	MOD-S DUE TO A	0334
0910	4	0909	0900	COM-A DUE TO S	0242	1209		622	1200	MOD-S DUE TO A	0335
0910		0912		DELETION	0243	1209		6294	1200	MOD-S DUE TO A	0336
0912	4	0909	0900	COM-A DUE TO S	0244	1209	4	6299	1200	MOD-S DUE TO A	0337
0919		0910-0918		DELETION	0245	1209	2	6929	1203	MOD-S DUE TO A	0338
0930		0970	095	COM-A DUE TO S	0246	1229		1220-1228		DELETION	0339
0930	1	0979	095	COM-A DUE TO S	0247	1233		122-1232		DELETION	0340
0939	4	0909	0905	COM-MENTION OF	0248	1233		1236		DELETION	0341
0940		0909	0904	COM-MENTION OF	0249	1259		1250-1258		DELETION	0342
0941		0909	0904	COM-MENTION OF	0250	1269		1260-1268		DELETION	0343
0949	4	0909	0904	COM-MENTION OF	0251	1279		120-1275		DELETION	0344
0949	1	3449	0941	COM-MENTION OF	0252	1289		120-1288		DELETION	0345
0949	1	3479	0940	COM-MENTION OF	0253	129	4	006-0079		DELETION	0346
0949		7804	0940	COM-MENTION OF	0254	129		120-1289		DELETION	0347
095	4	0909	0900	COM-A DUE TO S	0255	1309		1300-1302		DELETION	0348
0970		0903-0905		DELETION	0256	1309	1	2892	1300	MOD-S DUE TO A	0349
0970		0907		DELETION	0257	1309	1	2893	1300	MOD-S DUE TO A	0350
0970		093-095		DELETION	0258	1309	4	3209	1300	MOD-S DUE TO A	0351
0979		0900		DELETION	0259	1309	1	360	1300	MOD-S DUE TO A	0352
0979		0902-0905		DELETION	0260	1309	1	366	1300	MOD-S DUE TO A	0353
0979		0907		DELETION	0261	1309	1	486	1300	MOD-S DUE TO A	0354
0979		0909		DELETION	0262	1309	4	5730	1300	MOD-S DUE TO A	0355
0979		091		DELETION	0263	1309	1	742	1300	MOD-S DUE TO A	0356
0979	4	093-095		DELETION	0264	1309	1	7431	1300	MOD-S DUE TO A	0357
0979		0970		DELETION	0265	1309	1	7441	1300	MOD-S DUE TO A	0358
0989	4	0980-0988		DELETION	0266	1309	1	7789	1300	MOD-S DUE TO A	0359
0999	4	0909	0900	COM-A DUE TO S	0267	1400		1401	1402	COM-MENTION OF	0360
1009		1000-1008		DELETION	0268	1401		1400	1402	COM-MENTION OF	0361
1027		0970	095	COM-A DUE TO S	0269	1409		1400-1402		DELETION	0362
1027		0979	095	COM-A DUE TO S	0270	1413		144		DELETION	0363
1029		1020-1027		DELETION	0271	1419		1410-1413		DELETION	0364
1029	1	228	1021	MOD-S DUE TO A	0272	1429		1420-1428		DELETION	0365
1029	1	7011	1023	MOD-S DUE TO A	0273	1439		1430-1431		DELETION	0366
1029	1	720	1026	MOD-S DUE TO A	0274	1459		140-1458		DELETION	0367
1031		1032	1033	COM-MENTION OF	0275	1469		1460-1468		DELETION	0368
1032		1031	1033	COM-MENTION OF	0276	1489		1480-1488		DELETION	0369
1039	1	0910	1031	MOD-S DUE TO A	0277	149		146-1489		DELETION	0370
1039		1030-1033		DELETION	0278	1519		1510-1518		DELETION	0371
1039	1	3949	1032	MOD-S DUE TO A	0279	1522	1	1530		DELETION	0372

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
1529		1520-1522		DELETION	0373		4	212		DELETION	0466
1533		1541	1540	COM-MENTION OF	0374	2319	4	2310-2315		DELETION	0467
1538		1530-1533		DELETION	0375	235		1830		DELETION	0468
1538		1541	1540	COM-MENTION OF	0376	235		220		DELETION	0469
1539		152 -1538		DELETION	0377	235	2	2589	2560	COM-MENTION OF	0470
1541		1533	1540	COM-MENTION OF	0378	2369	4	1831-1849		DELETION	0471
1541		1538	1540	COM-MENTION OF	0379	2369	4	221		DELETION	0472
1541	1	1736	1542	COM-MENTION OF	0380	2369	4	2360-2368		DELETION	0473
1569		1550-1551		DELETION	0381	2373		1890		DELETION	0474
1569		1560-1562		DELETION	0382	2373		2230		DELETION	0475
1579		1570-1578		DELETION	0383	2381		191		DELETION	0476
159		150 -1589		DELETION	0384	2381		1929	191	COM-MENTION OF	0477
1609		1602-1608		DELETION	0385	2381		2250		DELETION	0478
1619		1610-1618		DELETION	0386	2381	4	2259	2252	COM-MENTION OF	0479
1639	4	160 -1631		DELETION	0387	2384		1922		DELETION	0480
1709		1700-1708		DELETION	0388	2384		2253		DELETION	0481
1719		1710-1713		DELETION	0389	2391	4	193 -1949		DELETION	0482
1729		1720-1728		DELETION	0390	2391		226		DELETION	0483
1736	1	1541	1542	COM-MENTION OF	0391	2391	1	2589	2550	COM-MENTION OF	0484
1739		1730-1738		DELETION	0392	2400		2422	2420	COM-MENTION OF	0485
1829		180 -1820		DELETION	0393	2401		2422	2420	COM-MENTION OF	0486
1839		1830-1831		DELETION	0394	2409		2400		DELETION	0487
1849	4	180 -1848		DELETION	0395	2409		2401		DELETION	0488
1879		185 -1878		DELETION	0396	2409		2422	2420	COM-MENTION OF	0489
1929	4	190 -191		DELETION	0397	2410	4	2422	2421	COM-MENTION OF	0490
1929		1920-1925		DELETION	0398	2411	4	2422	2421	COM-MENTION OF	0491
1929		2381	191	COM-MENTION OF	0399	2419		2410		DELETION	0492
1929	2	3479	191	MOD-S DUE TO A	0400	2419		2411		DELETION	0493
1929		4319	191	MOD-S DUE TO A	0401	2419	4	2422	2421	COM-MENTION OF	0494
1949		1940-1948		DELETION	0402	2422		240	2420	COM-MENTION OF	0495
1960		1960-1967	1968	COM-MENTION OF	0403	2422	4	241	2421	COM-MENTION OF	0496
1961		1960-1967	1968	COM-MENTION OF	0404	2422	1	7811	2420	COM-MENTION OF	0497
1962		1960-1967	1968	COM-MENTION OF	0405	2450		0119	0179	COM-A DUE TO S	0498
1963		1960-1967	1968	COM-MENTION OF	0406	2451		0119	0179	COM-A DUE TO S	0499
1964		1960	1968	COM-MENTION OF	0407	2459		0119	0179	COM-A DUE TO S	0500
1964		1961	1968	COM-MENTION OF	0408	2459		2450		DELETION	0501
1964		1962	1968	COM-MENTION OF	0409	2459		2451		DELETION	0502
1964		1963	1968	COM-MENTION OF	0410	246		0970	095	COM-A DUE TO S	0503
1964		1967	1968	COM-MENTION OF	0411	246		0979	095	COM-A DUE TO S	0504
1967		1960-1964	1968	COM-MENTION OF	0412	2509		2500		DELETION	0505
1978		5719	1550	MOD-S DUE TO A	0413	2509		7800	2500	COM-MENTION OF	0506
1990		5112	1972	MOD-S DUE TO A	0414	2509	4	7880	2500	COM-MENTION OF	0507
1990	1	5609	1975	MOD-S DUE TO A	0415	2539		0970	095	COM-A DUE TO S	0508
1990	5	5609	1539	MOD-S DUE TO A	0416	2539		0979	095	COM-A DUE TO S	0509
1991		140 -1989		DELETION	0417	254		0970	095	COM-A DUE TO S	0510
1991		1990		DELETION	0418	254		0979	095	COM-A DUE TO S	0511
1991		5112	1972	MOD-S DUE TO A	0419	2550	1	2559	2736	COM-MENTION OF	0512
1991	2	5609	1539	MOD-S DUE TO A	0420	2550	1	2736		DELETION	0513
2049		2040		DELETION	0421	2551	1	0119	0179	COM-A DUE TO S	0514
2049		2041		DELETION	0422	2551		0970	095	COM-A DUE TO S	0515
2059		2050		DELETION	0423	2551		0979	095	COM-A DUE TO S	0516
2059		2051		DELETION	0424	2559	1	0119	0179	COM-A DUE TO S	0517
2069		2060		DELETION	0425	2559	1	2550	2736	COM-MENTION OF	0518
2069		2061		DELETION	0426	2559	1	2589	2550	COM-MENTION OF	0519
2079		204 -2072		DELETION	0427	2559	1	7527	2736	COM-MENTION OF	0520
2109		2105-2108		DELETION	0428	2589	1	226	2550	COM-MENTION OF	0521
2119		2110-2117		DELETION	0429	2589	1	235	2560	COM-MENTION OF	0522
2129		2120-2125		DELETION	0430	2589	1	2391	2550	COM-MENTION OF	0523
2130		0970	095	COM-A DUE TO S	0431	2589	1	2559	2550	COM-MENTION OF	0524
2130		0979	095	COM-A DUE TO S	0432	2589	4	2949	2901	COM-MENTION OF	0525
2130		0989	0988	COM-A DUE TO S	0433	2589	4	299	2901	COM-MENTION OF	0526
2169		2160-2168		DELETION	0434	2609		2600-2608		DELETION	0527
2201		0119	0162	COM-A DUE TO S	0435	2609	2	3789	2600	COM-MENTION OF	0528
2219	4	218 -2209		DELETION	0436	2639		261 -2638		DELETION	0529
2219		2210		DELETION	0437	2659		2650-2652		DELETION	0530
2219		2212		DELETION	0438	2669		260 -2668		DELETION	0531
2219		2218		DELETION	0439	268		794	794	COM-A DUE TO S	0532
2220		0970	095	COM-A DUE TO S	0440	2709		2700-2708		DELETION	0533
2220		0979	095	COM-A DUE TO S	0441	2719		2710-2718		DELETION	0534
2229		2220-2228		DELETION	0442	2732	1	284	2850	COM-MENTION OF	0535
2239		2230-2238		DELETION	0443	2739		270 -2738		DELETION	0536
2259	4	2250		DELETION	0444	274		0970	095	COM-A DUE TO S	0537
2259	4	2251		DELETION	0445	274		0979	095	COM-A DUE TO S	0538
2259	4	2252		DELETION	0446	280	2	4589	280	COM-A DUE TO S	0539
2259	4	2253		DELETION	0447	280	4	6349	6331	COM-MENTION OF	0540
2259	4	2254		DELETION	0448	280	4	6770	676	COM-MENTION OF	0541
2259	4	2255		DELETION	0449	280	4	6779	676	COM-MENTION OF	0542
2259	4	2256		DELETION	0450	2810	1	0970	0949	COM-A DUE TO S	0543
2259	4	2381	2252	COM-MENTION OF	0451	2810	4	0979	0949	COM-A DUE TO S	0544
2260	1	2589	2550	COM-MENTION OF	0452	2810	4	6349	6330	COM-MENTION OF	0545
2261	1	2589	2550	COM-MENTION OF	0453	2810	4	650	653	COM-MENTION OF	0546
2262	1	2589	2550	COM-MENTION OF	0454	2810	4	6619	653	COM-MENTION OF	0547
2263	1	2589	2550	COM-MENTION OF	0455	2810	4	6770	676	COM-MENTION OF	0548
2264	1	2589	2550	COM-MENTION OF	0456	2810	4	6779	676	COM-MENTION OF	0549
2268	1	2589	2550	COM-MENTION OF	0457	2811	4	6349	6330	COM-MENTION OF	0550
2269		2260-2268		DELETION	0458	2811	4	650	653	COM-MENTION OF	0551
2269	1	2589	2550	COM-MENTION OF	0459	2811	4	6619	653	COM-MENTION OF	0552
2309	4	150 -159		DELETION	0460	2811	4	6770	676	COM-MENTION OF	0553
2309	4	211		DELETION	0461	2811	4	6779	676	COM-MENTION OF	0554
2309		2300-2307		DELETION	0462	2812	4	6349	6330	COM-MENTION OF	0555
2313		1621		DELETION	0463	2812	4	650	653	COM-MENTION OF	0556
2313		2123		DELETION	0464	2812	4	6619	653	COM-MENTION OF	0557
2319	4	160 -1639		DELETION	0465	2812	4	6770	676	COM-MENTION OF	0558

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
2812	4	6779	676	COM-MENTION OF	0559	3150		310 -3149		DELETION	0652
2813	4	6349	6330	COM-MENTION OF	0560	3158		310 -3149		DELETION	0653
2813	4	650	653	COM-MENTION OF	0561	3159		310 -3149		DELETION	0654
2813	4	6619	653	COM-MENTION OF	0562	3200		0119	0130	COM-A DUE TO S	0655
2813	4	6770	676	COM-MENTION OF	0563	3201		0119	0130	COM-A DUE TO S	0656
2813	4	6779	676	COM-MENTION OF	0564	3201		470	474	COM-A DUE TO S	0657
2814	4	6349	6330	COM-MENTION OF	0565	3208		0119	0130	COM-A DUE TO S	0658
2814	4	650	653	COM-MENTION OF	0566	3209		0119	0130	COM-A DUE TO S	0659
2814	4	6619	653	COM-MENTION OF	0567	3209		0130		DELETION	0660
2814	4	6770	676	COM-MENTION OF	0568	3209		0360		DELETION	0661
2814	4	6779	676	COM-MENTION OF	0569	3209	4	0361	0360	COM-MENTION OF	0662
2819	4	6349	6330	COM-MENTION OF	0570	3209		0369	0360	COM-MENTION OF	0663
2819	4	650	653	COM-MENTION OF	0571	3209		045 -046		DELETION	0664
2819	4	6619	653	COM-MENTION OF	0572	3209		0792		DELETION	0665
2819	4	6770	676	COM-MENTION OF	0573	3209	4	0869	0868	COM-MENTION OF	0666
2819	4	6779	676	COM-MENTION OF	0574	3209		0949		DELETION	0667
284	1	2732	2850	COM-MENTION OF	0575	3209	4	0970	0949	COM-A DUE TO S	0668
2859		0970	095	COM-A DUE TO S	0576	3209	4	0979	0949	COM-A DUE TO S	0669
2859		0979	095	COM-A DUE TO S	0577	3209	4	0989	0988	COM-A DUE TO S	0670
2859		2699	2819	MOD-A DUE TO S	0578	3209		1008		DELETION	0671
2859		4589	280	COM-A DUE TO S	0579	3209		3200-3208		DELETION	0672
2859	4	6349	6339	COM-MENTION OF	0580	3209	4	470	474	COM-MENTION OF	0673
2859	4	6770	676	COM-MENTION OF	0581	321	4	650	674	COM-MENTION OF	0674
2859	4	6779	676	COM-MENTION OF	0582	322	2	0119	0139	COM-A DUE TO S	0675
2859	1	7039	280	COM-MENTION OF	0583	323		0119	0139	COM-A DUE TO S	0676
2871	1	6779	675	COM-MENTION OF	0584	323		0139		DELETION	0677
2891		0970	095	COM-A DUE TO S	0585	323		0360		DELETION	0678
2891		0979	095	COM-A DUE TO S	0586	323		0361	0360	COM-A DUE TO S	0679
2891	1	0989	0988	COM-A DUE TO S	0587	323		0369	0360	COM-A DUE TO S	0680
2892		0970	095	COM-A DUE TO S	0588	323	4	062 -065		DELETION	0681
2892		0979	095	COM-A DUE TO S	0589	323		0792		DELETION	0682
2892	1	0989	0988	COM-A DUE TO S	0590	323		0949		DELETION	0683
2893	4	0909	0900	COM-A DUE TO S	0591	323		130		DELETION	0684
2893		0970	095	COM-A DUE TO S	0592	323	2	470	474	COM-MENTION OF	0685
2893		0979	095	COM-A DUE TO S	0593	323	4	6954	7341	COM-A DUE TO S	0686
2893	1	0989	0988	COM-A DUE TO S	0594	3339	1	299	2901	COM-MENTION OF	0687
2894		0970	095	COM-A DUE TO S	0595	341	4	0970	0949	COM-A DUE TO S	0688
2894		0979	095	COM-A DUE TO S	0596	341	4	0979	0949	COM-A DUE TO S	0689
2895	1	0119	0179	COM-A DUE TO S	0597	342	4	0970	0949	COM-A DUE TO S	0690
2895		0970	095	COM-A DUE TO S	0598	342	4	0979	0949	COM-A DUE TO S	0691
2895		0979	095	COM-A DUE TO S	0599	3430	4	0970	0949	COM-A DUE TO S	0692
2899		0970	095	COM-A DUE TO S	0600	3430	4	0979	0949	COM-A DUE TO S	0693
2899		0979	095	COM-A DUE TO S	0601	3430		3430	3439	COM-MENTION OF	0694
2949	4	2589	2901	COM-MENTION OF	0602	3430		3431	3439	COM-MENTION OF	0695
2949	4	303	2919	COM-MENTION OF	0603	3430		3432	3439	COM-MENTION OF	0696
2949	2	794	2900	COM-MENTION OF	0604	3430	1	3439		DELETION	0697
2959		2950-2958		DELETION	0605	3431	4	0970	0949	COM-A DUE TO S	0698
2969		2960-2968		DELETION	0606	3431	4	0979	0949	COM-A DUE TO S	0699
299	4	2589	2901	COM-MENTION OF	0607	3431		3430	3439	COM-MENTION OF	0700
299		290 -2919		DELETION	0608	3431		3431	3439	COM-MENTION OF	0701
299		295 -2989		DELETION	0609	3431		3432	3439	COM-MENTION OF	0702
299	4	303	2919	COM-MENTION OF	0610	3431		7720	3431	COM-A DUE TO S	0703
299		3099	2949	COM-MENTION OF	0611	3432		3430	3439	COM-MENTION OF	0704
299	1	3339	2901	COM-MENTION OF	0612	3432		3431	3439	COM-MENTION OF	0705
299	4	627	299	COM-A DUE TO S	0613	3432		3432	3439	COM-MENTION OF	0706
299		794	2900	COM-MENTION OF	0614	3432	1	3439		DELETION	0707
3009		3000-3008		DELETION	0615	3440	4	043	040	COM-MENTION OF	0708
3019		3010-3018		DELETION	0616	3440	4	043	041	COM-MENTION OF	0709
3029		3020-3028		DELETION	0617	3440		094		DELETION	0710
3030	4	262		DELETION	0618	3440		0970	0949	COM-A DUE TO S	0711
3030		2910		DELETION	0619	3440		0979	0949	COM-A DUE TO S	0712
3030	4	2949	2919	COM-MENTION OF	0620	3441	4	043	040	COM-MENTION OF	0713
3030	4	299	2919	COM-MENTION OF	0621	3441	4	043	041	COM-MENTION OF	0714
3030		5710		DELETION	0622	3441		094		DELETION	0715
3030		5718	5710	COM-MENTION OF	0623	3441		0970	0949	COM-A DUE TO S	0716
3030		5719	5710	COM-MENTION OF	0624	3441		0979	0949	COM-A DUE TO S	0717
3031	4	262		DELETION	0625	3441		401	4380	COM-A DUE TO S	0718
3031		2910		DELETION	0626	3441		4400	4389	MOD-A DUE TO S	0719
3031	4	2949	2919	COM-MENTION OF	0627	3441		4401	4389	MOD-A DUE TO S	0720
3031	4	299	2919	COM-MENTION OF	0628	3441		4402	4389	MOD-A DUE TO S	0721
3031		5710		DELETION	0629	3441		4403	4389	MOD-A DUE TO S	0722
3031		5718	5710	COM-MENTION OF	0630	3441		4409	4389	MOD-A DUE TO S	0723
3031		5719	5710	COM-MENTION OF	0631	3442	4	043	040	COM-MENTION OF	0724
3032	4	262		DELETION	0632	3442	4	043	041	COM-MENTION OF	0725
3032		2910		DELETION	0633	3442		094		DELETION	0726
3032		2911		DELETION	0634	3442		0970	0949	COM-A DUE TO S	0727
3032		2912		DELETION	0635	3442		0979	0949	COM-A DUE TO S	0728
3032		2913		DELETION	0636	3443	4	043	040	COM-MENTION OF	0729
3032		2919		DELETION	0637	3443	4	043	041	COM-MENTION OF	0730
3032	4	2949	2919	COM-MENTION OF	0638	3443		094		DELETION	0731
3032	4	299	2919	COM-MENTION OF	0639	3443		0970	0949	COM-A DUE TO S	0732
3032		5710		DELETION	0640	3443		0979	0949	COM-A DUE TO S	0733
3032		5718	5710	COM-MENTION OF	0641	3449	4	043	040	COM-MENTION OF	0734
3032		5719	5710	COM-MENTION OF	0642	3449	4	043	041	COM-MENTION OF	0735
3039	4	262		DELETION	0643	3449	1	0949	0941	COM-MENTION OF	0736
3039		2910		DELETION	0644	3449		0970	0949	COM-A DUE TO S	0737
3039	4	2949	2919	COM-MENTION OF	0645	3449		0979	0949	COM-A DUE TO S	0738
3039	4	299	2919	COM-MENTION OF	0646	3449	4	401	4380	COM-A DUE TO S	0739
3039		5710		DELETION	0647	3449	4	4400	4389	MOD-A DUE TO S	0740
3039		5718	5710	COM-MENTION OF	0648	3449	4	4401	4389	MOD-A DUE TO S	0741
3039		5719	5710	COM-MENTION OF	0649	3449	4	4402	4389	MOD-A DUE TO S	0742
3049		3040-3048		DELETION	0650	3449	4	4403	4389	MOD-A DUE TO S	0743
3099		299	2949	COM-MENTION OF	0651	3449	4	4409	4389	MOD-A DUE TO S	0744

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
3450	4	0970	0949	COM-A DUE TO S	0745	367	4	0970	0949	COM-A DUE TO S	0838
3450	4	0979	0949	COM-A DUE TO S	0746	367	5	0970	095	COM-A DUE TO S	0839
3451	4	0970	0949	COM-A DUE TO S	0747	367	4	0979	0949	COM-A DUE TO S	0840
3451	4	0979	0949	COM-A DUE TO S	0748	367	5	0979	095	COM-A DUE TO S	0841
3452	4	0970	0949	COM-A DUE TO S	0749	368	2	0119	0172	COM-A DUE TO S	0842
3452	4	0979	0949	COM-A DUE TO S	0750	368	4	0909	0900	COM-A DUE TO S	0843
3453	4	0970	0949	COM-A DUE TO S	0751	368	5	0970	095	COM-A DUE TO S	0844
3453	4	0979	0949	COM-A DUE TO S	0752	368	5	0979	095	COM-A DUE TO S	0845
3454	4	0970	0949	COM-A DUE TO S	0753	3699		0970	095	COM-A DUE TO S	0846
3454	4	0979	0949	COM-A DUE TO S	0754	3699		0979	095	COM-A DUE TO S	0847
3455	4	0970	0949	COM-A DUE TO S	0755	3739	4	0970	0949	COM-A DUE TO S	0848
3455	4	0979	0949	COM-A DUE TO S	0756	3739	4	0979	0949	COM-A DUE TO S	0849
3459	4	0970	0949	COM-A DUE TO S	0757	3750	4	0119	0172	COM-A DUE TO S	0850
3459	4	0979	0949	COM-A DUE TO S	0758	3751	4	0119	0172	COM-A DUE TO S	0851
3470	4	0869	0868	COM-MENTION OF	0759	3752	4	0119	0172	COM-A DUE TO S	0852
3471	4	0869	0868	COM-MENTION OF	0760	3759	4	0119	0172	COM-A DUE TO S	0853
3479		0119	0130	COM-A DUE TO S	0761	3759		0970	095	COM-A DUE TO S	0854
3479	4	0869	0868	COM-MENTION OF	0762	3759		0979	095	COM-A DUE TO S	0855
3479	1	0949	0940	COM-MENTION OF	0763	3759		3750-3752	DELETION		0856
3479		0979	0949	COM-A DUE TO S	0764	3775		0970	0949	COM-A DUE TO S	0857
3479	2	4400	4379	MOD-A DUE TO S	0765	3775		0979	0949	COM-A DUE TO S	0858
3479	2	4401	4379	MOD-A DUE TO S	0766	3776	4	0970	0949	COM-A DUE TO S	0859
3479	2	4402	4379	MOD-A DUE TO S	0767	3776	4	0979	0949	COM-A DUE TO S	0860
3479	2	4403	4379	MOD-A DUE TO S	0768	3779	4	0172	DELETION		0861
3479	2	4409	4379	MOD-A DUE TO S	0769	3779	2	190	DELETION		0862
3479	2	7419	7410	COM-MENTION OF	0770	3779	2	1920	DELETION		0863
3479	2	7560	742	COM-MENTION OF	0771	3779	2	1984	DELETION		0864
3481	4	043	040	COM-MENTION OF	0772	3779	2	224	DELETION		0865
3499	4	0970	0949	COM-A DUE TO S	0773	3779	2	2251	DELETION		0866
3499	4	0979	0949	COM-A DUE TO S	0774	3779	2	2380	DELETION		0867
3499	1	2810	DELETION		0775	3779	2	2382	DELETION		0868
3499	1	4400	4379	MOD-A DUE TO S	0776	3779	2	367	DELETION		0869
3499	1	4401	4379	MOD-A DUE TO S	0777	3779	4	376	DELETION		0870
3499	1	4402	4379	MOD-A DUE TO S	0778	3779	4	377	DELETION		0871
3499	1	4403	4379	MOD-A DUE TO S	0779	3779	2	3789	DELETION		0872
3499	1	4409	4379	MOD-A DUE TO S	0780	3782	4	0970	0949	COM-A DUE TO S	0873
3499	2	7729	7721	COM-MENTION OF	0781	3782	5	0970	095	COM-A DUE TO S	0874
350		0970	0949	COM-A DUE TO S	0782	3782	4	0979	0949	COM-A DUE TO S	0875
350		0979	0949	COM-A DUE TO S	0783	3782	5	0979	095	COM-A DUE TO S	0876
350		7729	7722	COM-MENTION OF	0784	3783	5	0970	095	COM-A DUE TO S	0877
3550	4	6409	6401	COM-MENTION OF	0785	3783	5	0979	095	COM-A DUE TO S	0878
3550	4	6410	6412	COM-MENTION OF	0786	3784	5	0970	095	COM-A DUE TO S	0879
3550	4	6419	6411	COM-MENTION OF	0787	3784	5	0979	095	COM-A DUE TO S	0880
3550	4	6439	6431	COM-MENTION OF	0788	3786	4	0970	0939	COM-A DUE TO S	0881
3550	4	6449	6441	COM-MENTION OF	0789	3786	5	0970	095	COM-A DUE TO S	0882
3550	4	6459	6451	COM-MENTION OF	0790	3786	4	0979	0939	COM-A DUE TO S	0883
3551	4	6409	6401	COM-MENTION OF	0791	3786	5	0979	095	COM-A DUE TO S	0884
3551	4	6410	6412	COM-MENTION OF	0792	3788	5	0970	095	COM-A DUE TO S	0885
3551	4	6419	6411	COM-MENTION OF	0793	3788	5	0979	095	COM-A DUE TO S	0886
3551	4	6439	6431	COM-MENTION OF	0794	3789		0172	DELETION		0887
3551	4	6449	6441	COM-MENTION OF	0795	3789	5	0970	095	COM-A DUE TO S	0888
3551	4	6459	6451	COM-MENTION OF	0796	3789	5	0979	095	COM-A DUE TO S	0889
3559		0970	095	COM-A DUE TO S	0797	3789	2	2609	2600	COM-MENTION OF	0890
3559		0979	095	COM-A DUE TO S	0798	3810	1	0119	0173	COM-A DUE TO S	0891
3559	4	6409	6401	COM-MENTION OF	0799	3810		3830	3820	COM-MENTION OF	0892
3559	4	6410	6412	COM-MENTION OF	0800	3810		3839	3820	COM-MENTION OF	0893
3559	4	6419	6411	COM-MENTION OF	0801	3811	1	0119	0173	COM-A DUE TO S	0894
3559	4	6439	6431	COM-MENTION OF	0802	3811		3831	3821	COM-MENTION OF	0895
3559	4	6449	6441	COM-MENTION OF	0803	3811		3839	3821	COM-MENTION OF	0896
3559	4	6459	6451	COM-MENTION OF	0804	3819	1	0119	0173	COM-A DUE TO S	0897
3570	2	7729	7722	COM-MENTION OF	0805	3819		3830	3820	COM-MENTION OF	0898
3579		0970	095	COM-A DUE TO S	0806	3819		3831	3821	COM-MENTION OF	0899
3579		0979	095	COM-A DUE TO S	0807	3819		3839	3829	COM-MENTION OF	0900
3579	1	2810	DELETION		0808	3820	1	0119	0173	COM-A DUE TO S	0901
3579	2	7729	7722	COM-MENTION OF	0809	3821	1	0119	0173	COM-A DUE TO S	0902
360	2	0119	0172	COM-A DUE TO S	0810	3829	1	0119	0173	COM-A DUE TO S	0903
360		0369	0368	COM-A DUE TO S	0811	3830	1	0119	0158	COM-A DUE TO S	0904
360		0970	095	COM-A DUE TO S	0812	3830		3810	3820	COM-MENTION OF	0905
360		0979	095	COM-A DUE TO S	0813	3830		3819	3820	COM-MENTION OF	0906
360	2	0989	0982	COM-A DUE TO S	0814	3831	1	0119	0158	COM-A DUE TO S	0907
360	2	507	DELETION		0815	3831		3811	3821	COM-MENTION OF	0908
361	2	0119	0172	COM-A DUE TO S	0816	3831		3819	3821	COM-MENTION OF	0909
361		0970	095	COM-A DUE TO S	0817	3839	1	0119	0158	COM-A DUE TO S	0910
361		0979	095	COM-A DUE TO S	0818	3839		3810	3820	COM-MENTION OF	0911
3630	2	0119	0172	COM-A DUE TO S	0819	3839		3811	3821	COM-MENTION OF	0912
3639	2	0119	0172	COM-A DUE TO S	0820	3839		3819	3829	COM-MENTION OF	0913
3639	2	0989	0982	COM-A DUE TO S	0821	3840		0970	095	COM-A DUE TO S	0914
3639		3630	DELETION		0822	3840		0979	095	COM-A DUE TO S	0915
3639		7079	3630	COM-MENTION OF	0823	3849	4	0970	0949	COM-A DUE TO S	0916
364	2	0119	0172	COM-A DUE TO S	0824	3849	4	0979	0949	COM-A DUE TO S	0917
364	4	0909	0900	COM-A DUE TO S	0825	3879		0970	095	COM-A DUE TO S	0918
364	5	0970	095	COM-A DUE TO S	0826	3879		0979	095	COM-A DUE TO S	0919
364	5	0979	095	COM-A DUE TO S	0827	3890		7452-7453	7450	COM-MENTION OF	0920
364	2	0989	0982	COM-A DUE TO S	0828	3891		7452-7453	7450	COM-MENTION OF	0921
365	2	0119	0172	COM-A DUE TO S	0829	3892		7452-7453	7450	COM-MENTION OF	0922
365	5	0970	095	COM-A DUE TO S	0830	3899		7452-7453	7450	COM-MENTION OF	0923
365	5	0979	095	COM-A DUE TO S	0831	390		391	DELETION		0924
366	2	0119	0172	COM-A DUE TO S	0832	390	1	393	3910	COM-MENTION OF	0925
366	4	0909	0900	COM-A DUE TO S	0833	390	5	393	393	COM-MENTION OF	0926
366	5	0970	095	COM-A DUE TO S	0834	390	1	3940	3911	COM-MENTION OF	0927
366	5	0979	095	COM-A DUE TO S	0835	390	5	3940	3940	COM-MENTION OF	0928
367	2	0119	0172	COM-A DUE TO S	0836	390	1	3949	3911	COM-MENTION OF	0929
367		0369	0368	COM-A DUE TO S	0837	390	5	3949	3940	COM-MENTION OF	0930

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB CODE (S)	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB CODE (S)	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
390	1	3950	3911	COM-MENTION OF	0931	3912	5	4241	3919	COM-MENTION OF	1024
390	5	3950	3950	COM-MENTION OF	0932	3912	4	4249	3979	COM-MENTION OF	1025
390	1	3959	3911	COM-MENTION OF	0933	3912	4	4270	398	COM-MENTION OF	1026
390	5	3959	3950	COM-MENTION OF	0934	3912	5	4270	3919	COM-MENTION OF	1027
390	1	3960	3911	COM-MENTION OF	0935	3912	4	4271	398	COM-MENTION OF	1028
390	5	3960	3960	COM-MENTION OF	0936	3912	5	4271	3919	COM-MENTION OF	1029
390	1	3969	3911	COM-MENTION OF	0937	3912	4	4290	393	COM-MENTION OF	1030
390	5	3969	3960	COM-MENTION OF	0938	3912	4	4290	398	COM-MENTION OF	1031
390	1	3970	3911	COM-MENTION OF	0939	3912	5	4290	3919	COM-MENTION OF	1032
390	5	3970	3970	COM-MENTION OF	0940	3912	4	4299	393	COM-MENTION OF	1033
390	1	3979	3911	COM-MENTION OF	0941	3912	4	4299	398	COM-MENTION OF	1034
390	5	3979	3979	COM-MENTION OF	0942	3912	5	4299	3919	COM-MENTION OF	1035
390	1	398	3912	COM-MENTION OF	0943	3919		3929	3920	COM-MENTION OF	1036
390	1	398	3919	COM-MENTION OF	0944	3919	4	4240	398	COM-MENTION OF	1037
390	5	398	398	COM-MENTION OF	0945	3919	5	4240	3919	COM-MENTION OF	1038
390	1	4219	3911	COM-MENTION OF	0946	3919	4	4241	3950	COM-MENTION OF	1039
390	1	422	3912	COM-MENTION OF	0947	3919	5	4241	3919	COM-MENTION OF	1040
390	1	423	3910	COM-MENTION OF	0948	3919	4	4249	3979	COM-MENTION OF	1041
390	5	423	393	COM-MENTION OF	0949	3929		391	3920	COM-MENTION OF	1042
390	1	4240	3911	COM-MENTION OF	0950	3929		3920	DELETION		1043
390	5	4240	3940	COM-MENTION OF	0951	3929		393 -398	DELETION		1044
390	1	4241	3911	COM-MENTION OF	0952	3929	1	4270	3920	COM-MENTION OF	1045
390	5	4241	3950	COM-MENTION OF	0953	3929	1	4271	3920	COM-MENTION OF	1046
390	1	4249	3911	COM-MENTION OF	0954	3929	1	428	3920	COM-MENTION OF	1047
390	4	4249	3970	COM-MENTION OF	0955	3929	1	4290	3920	COM-MENTION OF	1048
390	5	4249	3979	COM-MENTION OF	0956	3929	1	4299	3920	COM-MENTION OF	1049
390	1	4270	3919	COM-MENTION OF	0957	393	1	390	3910	COM-MENTION OF	1050
390	5	4270	398	COM-MENTION OF	0958	393	5	390	393	COM-MENTION OF	1051
390	1	4271	3919	COM-MENTION OF	0959	393	1	3911	3919	COM-MENTION OF	1052
390	5	4271	398	COM-MENTION OF	0960	393	1	3912	3919	COM-MENTION OF	1053
390	1	428	3912	COM-MENTION OF	0961	393		3919	DELETION		1054
390	5	428 -4299	398	COM-MENTION OF	0962	3940	1	390	3911	COM-MENTION OF	1055
390	1	429	3919	COM-MENTION OF	0963	3940	5	390	3940	COM-MENTION OF	1056
390	1	7824	3919	COM-MENTION OF	0964	3940	1	3910	3919	COM-MENTION OF	1057
390	5	7824	398	COM-MENTION OF	0965	3940	1	3911	3919	COM-MENTION OF	1058
3910		3911	3919	COM-MENTION OF	0966	3940	1	3912	3919	COM-MENTION OF	1059
3910		3912	3919	COM-MENTION OF	0967	3940		3919	DELETION		1060
3910		3929	3920	COM-MENTION OF	0968	3940		395	3960	COM-MENTION OF	1061
3910	1	394 -398	3919	COM-MENTION OF	0969	3940		3960	DELETION		1062
3910	1	422	3919	COM-MENTION OF	0970	3940		3969	3960	COM-MENTION OF	1063
3910	1	423	393	COM-MENTION OF	0971	3949		0970	0939	COM-A DUE TO S	1064
3910	4	4240	3940	COM-MENTION OF	0972	3949		0989	0988	COM-A DUE TO S	1065
3910	5	4240	3919	COM-MENTION OF	0973	3949	1	390	3911	COM-MENTION OF	1066
3910	4	4241	3950	COM-MENTION OF	0974	3949	5	390	3940	COM-MENTION OF	1067
3910	5	4241	3919	COM-MENTION OF	0975	3949	1	3910	3919	COM-MENTION OF	1068
3910	4	4249	3979	COM-MENTION OF	0976	3949	1	3911	3919	COM-MENTION OF	1069
3910	4	4249	398	COM-MENTION OF	0977	3949	1	3912	3919	COM-MENTION OF	1070
3910	5	4249	3919	COM-MENTION OF	0978	3949		3919	DELETION		1071
3910	4	4270	398	COM-MENTION OF	0979	3949		3940	DELETION		1072
3910	5	4270	3919	COM-MENTION OF	0980	3949		3950	3960	COM-MENTION OF	1073
3910	4	4271	398	COM-MENTION OF	0981	3949		3959	3969	COM-MENTION OF	1074
3910	5	4271	3919	COM-MENTION OF	0982	3949		3960	DELETION		1075
3910	1	428	3919	COM-MENTION OF	0983	3949		3969	DELETION		1076
3910	4	428	393	COM-MENTION OF	0984	3949	4	3970	3940	MOD-MENTION OF	1077
3910	4	428	398	COM-MENTION OF	0985	3949		3979	3940	MOD-MENTION OF	1078
3910	5	428	3912	COM-MENTION OF	0986	3949		398	3940	MOD-MENTION OF	1079
3910	4	4290	393	COM-MENTION OF	0987	3949		4401	4240	MOD-A DUE TO S	1080
3910	4	4290	398	COM-MENTION OF	0988	3949		4402	4240	MOD-A DUE TO S	1081
3910	5	4290	3919	COM-MENTION OF	0989	3949		4403	4240	MOD-A DUE TO S	1082
3910	4	4299	393	COM-MENTION OF	0990	3950	1	390	3911	COM-MENTION OF	1083
3910	4	4299	398	COM-MENTION OF	0991	3950	5	390	3950	COM-MENTION OF	1084
3910	5	4299	3919	COM-MENTION OF	0992	3950	1	3910	3919	COM-MENTION OF	1085
3911		3910	3919	COM-MENTION OF	0993	3950	1	3911	3919	COM-MENTION OF	1086
3911		3912	3919	COM-MENTION OF	0994	3950	1	3912	3919	COM-MENTION OF	1087
3911		3929	3920	COM-MENTION OF	0995	3950		3919	DELETION		1088
3911	1	393 -398	3919	COM-MENTION OF	0996	3950		394	3960	COM-MENTION OF	1089
3911	1	422	3919	COM-MENTION OF	0997	3950		3960	DELETION		1090
3911	4	4240	3940	COM-MENTION OF	0998	3950		3969	3960	COM-MENTION OF	1091
3911	5	4240	3911	COM-MENTION OF	0999	3959		0970	0939	COM-A DUE TO S	1092
3911	4	4241	3950	COM-MENTION OF	1000	3959	1	390	3911	COM-MENTION OF	1093
3911	5	4241	3911	COM-MENTION OF	1001	3959	5	390	3950	COM-MENTION OF	1094
3911	4	4249	3970	COM-MENTION OF	1002	3959	1	3910	3919	COM-MENTION OF	1095
3911	4	4249	3979	COM-MENTION OF	1003	3959	1	3911	3919	COM-MENTION OF	1096
3911	5	4249	3911	COM-MENTION OF	1004	3959	1	3912	3919	COM-MENTION OF	1097
3911	4	4270	398	COM-MENTION OF	1005	3959		3919	DELETION		1098
3911	5	4270	3919	COM-MENTION OF	1006	3959		3940	3960	COM-MENTION OF	1099
3911	4	4271	398	COM-MENTION OF	1007	3959		3949	3969	COM-MENTION OF	1100
3911	5	4271	3919	COM-MENTION OF	1008	3959		3950	DELETION		1101
3911	1	428	3919	COM-MENTION OF	1009	3959		3960	DELETION		1102
3911	4	428	393	COM-MENTION OF	1010	3959		3969	DELETION		1103
3911	4	428	398	COM-MENTION OF	1011	3959	4	3970	3950	MOD-MENTION OF	1104
3911	5	428	3912	COM-MENTION OF	1012	3959		3979	3950	MOD-MENTION OF	1105
3911	4	4290	393	COM-MENTION OF	1013	3959		398	3950	MOD-MENTION OF	1106
3911	5	4290	3919	COM-MENTION OF	1014	3959		4401	4241	MOD-A DUE TO S	1107
3911	4	4299	393	COM-MENTION OF	1015	3959		4402	4241	MOD-A DUE TO S	1108
3911	5	4299	3919	COM-MENTION OF	1016	3959		4403	4241	MOD-A DUE TO S	1109
3912		3910	3919	COM-MENTION OF	1017	3960	1	390	3911	COM-MENTION OF	1110
3912		3911	3919	COM-MENTION OF	1018	3960	5	390	3960	COM-MENTION OF	1111
3912		3929	3920	COM-MENTION OF	1019	3960	1	3910	3919	COM-MENTION OF	1112
3912	1	393 -398	3919	COM-MENTION OF	1020	3960	1	3911	3919	COM-MENTION OF	1113
3912	4	4240	3940	COM-MENTION OF	1021	3960	1	3912	3919	COM-MENTION OF	1114
3912	5	4240	3919	COM-MENTION OF	1022	3960		3919	DELETION		1115
3912	4	4241	3950	COM-MENTION OF	1023	3969		0970	0939	COM-A DUE TO S	1116

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
3969		0989	0988	COM-A DUE TO S	1117	4002		4124	4122	COM-MENTION OF	1210
3969	1	390	3911	COM-MENTION OF	1118	4002		4130		DELETION	1211
3969	5	390	3960	COM-MENTION OF	1119	4002		4139	4130	COM-MENTION OF	1212
3969	1	3910	3919	COM-MENTION OF	1120	4002		427 -4299	4009	COM-MENTION OF	1213
3969	1	3911	3919	COM-MENTION OF	1121	4002		580 -584	4009	COM-MENTION OF	1214
3969	1	3912	3919	COM-MENTION OF	1122	4002		5932	4009	COM-MENTION OF	1215
3969		3919		DELETION	1123	4002		792	4009	COM-MENTION OF	1216
3969		3940	3960	COM-MENTION OF	1124	4003		4001	4009	COM-MENTION OF	1217
3969		3950	3960	COM-MENTION OF	1125	4003		4002	4009	COM-MENTION OF	1218
3969		3960		DELETION	1126	4003		402	4009	COM-MENTION OF	1219
3969	4	3970	3960	MOD-MENTION OF	1127	4003		403	4003	COM-MENTION OF	1220
3969		3979	3960	MOD-MENTION OF	1128	4003		404	4009	COM-MENTION OF	1221
3969		398	3960	MOD-MENTION OF	1129	4003		4100		DELETION	1222
3969		4401	4240	MOD-A DUE TO S	1130	4003		4109	4100	COM-MENTION OF	1223
3969		4402	4240	MOD-A DUE TO S	1131	4003		4110		DELETION	1224
3969		4403	4240	MOD-A DUE TO S	1132	4003		4119	4110	COM-MENTION OF	1225
3970	1	390	3911	COM-MENTION OF	1133	4003		4121		DELETION	1226
3970	5	390	3970	COM-MENTION OF	1134	4003		4122		DELETION	1227
3970	1	3910	3919	COM-MENTION OF	1135	4003		4123	4121	COM-MENTION OF	1228
3970	1	3911	3919	COM-MENTION OF	1136	4003		4124	4122	COM-MENTION OF	1229
3970	1	3912	3919	COM-MENTION OF	1137	4003		4130		DELETION	1230
3970		3919		DELETION	1138	4003		4139	4130	COM-MENTION OF	1231
3970	2	401	4249	MOD-A DUE TO S	1139	4003		427 -4389	4009	COM-MENTION OF	1232
3970	2	4400	4249	MOD-A DUE TO S	1140	4009		403	4009	COM-MENTION OF	1233
3970	2	4401	4249	MOD-A DUE TO S	1141	4009		404	4009	COM-MENTION OF	1234
3970	2	4402	4249	MOD-A DUE TO S	1142	4009		4100		DELETION	1235
3970	2	4403	4249	MOD-A DUE TO S	1143	4009		4109	4100	COM-MENTION OF	1236
3970	2	4409	4249	MOD-A DUE TO S	1144	4009		4110		DELETION	1237
3979	1	390	3911	COM-MENTION OF	1145	4009		4119	4110	COM-MENTION OF	1238
3979	5	390	3979	COM-MENTION OF	1146	4009		4121		DELETION	1239
3979	1	3910	3919	COM-MENTION OF	1147	4009		4122		DELETION	1240
3979	1	3911	3919	COM-MENTION OF	1148	4009		4123	4121	COM-MENTION OF	1241
3979	1	3912	3919	COM-MENTION OF	1149	4009		4124	4122	COM-MENTION OF	1242
3979		3919		DELETION	1150	4009		4130		DELETION	1243
3979		3970		DELETION	1151	4009		4139	4130	COM-MENTION OF	1244
398	1	390	3912	COM-MENTION OF	1152	401		400		DELETION	1245
398	1	390	3919	COM-MENTION OF	1153	401		402 -4100		DELETION	1246
398	5	390	398	COM-MENTION OF	1154	401		4109	4100	COM-MENTION OF	1247
398	1	3910	3919	COM-MENTION OF	1155	401		4110		DELETION	1248
398	1	3911	3919	COM-MENTION OF	1156	401		4119	4110	COM-MENTION OF	1249
398	1	3912	3919	COM-MENTION OF	1157	401		4121		DELETION	1250
398		3919		DELETION	1158	401		4122		DELETION	1251
398	1	422	3912	COM-MENTION OF	1159	401		4123	4121	COM-MENTION OF	1252
398	5	422	3919	COM-MENTION OF	1160	401		4124	4122	COM-MENTION OF	1253
4000		4001-4009		DELETION	1161	401		4130		DELETION	1254
4000		402	4001	COM-MENTION OF	1162	401		4139	4130	COM-MENTION OF	1255
4000		403	4003	COM-MENTION OF	1163	401		427 -4299	402	COM-MENTION OF	1256
4000		404	4009	COM-MENTION OF	1164	401		4300		DELETION	1257
4000		4100		DELETION	1165	401		4309	4300	COM-MENTION OF	1258
4000		4109	4100	COM-MENTION OF	1166	401		4310		DELETION	1259
4000		4110		DELETION	1167	401		4319	4310	COM-MENTION OF	1260
4000		4119	4110	COM-MENTION OF	1168	401		4320		DELETION	1261
4000		4121-4122		DELETION	1169	401		4329	4320	COM-MENTION OF	1262
4000		4123	4121	COM-MENTION OF	1170	401		4330		DELETION	1263
4000		4124	4122	COM-MENTION OF	1171	401		4339	4330	COM-MENTION OF	1264
4000		4130		DELETION	1172	401		4340		DELETION	1265
4000		4139	4130	COM-MENTION OF	1173	401		4349	4340	COM-MENTION OF	1266
4000		427 -4299	4001	COM-MENTION OF	1174	401		4350		DELETION	1267
4000		430 -4389	4002	COM-MENTION OF	1175	401		4359	4350	COM-MENTION OF	1268
4000		580 -584	4003	COM-MENTION OF	1176	401		4360		DELETION	1269
4000		5932	4003	COM-MENTION OF	1177	401		4369	4360	COM-MENTION OF	1270
4000		792	4003	COM-MENTION OF	1178	401		4370		DELETION	1271
4001		4002	4009	COM-MENTION OF	1179	401		4379	4370	COM-MENTION OF	1272
4001		4003	4009	COM-MENTION OF	1180	401		4380		DELETION	1273
4001		403	4009	COM-MENTION OF	1181	401		4389	4380	COM-MENTION OF	1274
4001		404	4009	COM-MENTION OF	1182	401		584	403	COM-MENTION OF	1275
4001		4100		DELETION	1183	401	2	5932	403	COM-MENTION OF	1276
4001		4109	4100	COM-MENTION OF	1184	401	4	6400	6402	COM-MENTION OF	1277
4001		4110		DELETION	1185	401	4	6409	6401	COM-MENTION OF	1278
4001		4119	4110	COM-MENTION OF	1186	401	4	6410	6412	COM-MENTION OF	1279
4001		4121		DELETION	1187	401	4	6419	6411	COM-MENTION OF	1280
4001		4122		DELETION	1188	401	4	6430	6432	COM-MENTION OF	1281
4001		4123	4121	COM-MENTION OF	1189	401	4	6439	6431	COM-MENTION OF	1282
4001		4124	4122	COM-MENTION OF	1190	401	4	6440	6442	COM-MENTION OF	1283
4001		4130		DELETION	1191	401	4	6449	6441	COM-MENTION OF	1284
4001		4139	4130	COM-MENTION OF	1192	401	4	6450	6452	COM-MENTION OF	1285
4001		427	4001	COM-MENTION OF	1193	401	4	6459	6451	COM-MENTION OF	1286
4001		428	4001	COM-MENTION OF	1194	402		4000	4001	COM-MENTION OF	1287
4001		429	4001	COM-MENTION OF	1195	402		4002-4003	4009	COM-MENTION OF	1288
4001		430 -4389	4009	COM-MENTION OF	1196	402		403	404	COM-MENTION OF	1289
4001		580 -584	4009	COM-MENTION OF	1197	402		404		DELETION	1290
4001		5932	4009	COM-MENTION OF	1198	402		4100		DELETION	1291
4001		792	4009	COM-MENTION OF	1199	402		4109	4100	COM-MENTION OF	1292
4002		4001	4009	COM-MENTION OF	1200	402		4110		DELETION	1293
4002		4003	4009	COM-MENTION OF	1201	402		4119	4110	COM-MENTION OF	1294
4002		402 -404	4009	COM-MENTION OF	1202	402		4121-4122		DELETION	1295
4002		4100		DELETION	1203	402		4123	4121	COM-MENTION OF	1296
4002		4109	4100	COM-MENTION OF	1204	402		4124	4122	COM-MENTION OF	1297
4002		4110		DELETION	1205	402		4130		DELETION	1298
4002		4119	4110	COM-MENTION OF	1206	402		4139	4130	COM-MENTION OF	1299
4002		4121		DELETION	1207	402		584	404	COM-MENTION OF	1300
4002		4122		DELETION	1208	403		4000	4003	COM-MENTION OF	1301
4002		4123	4121	COM-MENTION OF	1209	403		4001-4002	4009	COM-MENTION OF	1302

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
403		4003		DELETION	1303	4240		0369	0368	COM-A DUE TO S	1396
403		4003	4003	COM-MENTION OF	1304	4240	4	0869	0860	COM-MENTION OF	1397
403		4009	4009	COM-MENTION OF	1305	4240	4	0970	0939	COM-A DUE TO S	1398
403		402	404	COM-MENTION OF	1306	4240	4	0989	0988	COM-A DUE TO S	1399
403		404		DELETION	1307	4240	1	390	3911	COM-MENTION OF	1400
403		4100		DELETION	1308	4240	5	390	3940	COM-MENTION OF	1401
403		4109	4100	COM-MENTION OF	1309	4240	4	3910	3940	COM-MENTION OF	1402
403		4110		DELETION	1310	4240	5	3910	3919	COM-MENTION OF	1403
403		4119	4110	COM-MENTION OF	1311	4240	4	3911	3940	COM-MENTION OF	1404
403		4121-4122		DELETION	1312	4240	5	3911	3911	COM-MENTION OF	1405
403		4123	4121	COM-MENTION OF	1313	4240	4	3912	3940	COM-MENTION OF	1406
403		4124	4122	COM-MENTION OF	1314	4240	5	3912	3919	COM-MENTION OF	1407
403		4130		DELETION	1315	4240	4	3919	398	COM-MENTION OF	1408
403		4139	4130	COM-MENTION OF	1316	4240	5	3919	3919	COM-MENTION OF	1409
403		427 -4299	404	COM-MENTION OF	1317	4240		401	4240	COM-A DUE TO S	1410
404		4000-4003	4009	COM-MENTION OF	1318	4241		0369	0368	COM-A DUE TO S	1411
404		4009	4009	COM-MENTION OF	1319	4241	4	0869	0860	COM-MENTION OF	1412
404		4100		DELETION	1320	4241	4	0970	0939	COM-A DUE TO S	1413
404		4109	4100	COM-MENTION OF	1321	4241		0979	0939	COM-A DUE TO S	1414
404		4110		DELETION	1322	4241	4	0989	0988	COM-A DUE TO S	1415
404		4119	4110	COM-MENTION OF	1323	4241	1	390	3911	COM-MENTION OF	1416
404		4121-4122		DELETION	1324	4241	5	390	3950	COM-MENTION OF	1417
404		4123	4121	COM-MENTION OF	1325	4241	4	3910	3950	COM-MENTION OF	1418
404		4124	4122	COM-MENTION OF	1326	4241	5	3910	3919	COM-MENTION OF	1419
404		4130		DELETION	1327	4241	4	3911	3950	COM-MENTION OF	1420
404		4139	4130	COM-MENTION OF	1328	4241	5	3911	3911	COM-MENTION OF	1421
4109	4	0970	0939	COM-A DUE TO S	1329	4241	4	3912	3950	COM-MENTION OF	1422
4109	4	0979	0939	COM-A DUE TO S	1330	4241	5	3912	3919	COM-MENTION OF	1423
4109		400 -404	4100	COM-MENTION OF	1331	4241	4	3919	3950	COM-MENTION OF	1424
4109		4100		DELETION	1332	4241	5	3919	3919	COM-MENTION OF	1425
4109		4110	4100	MOD-MENTION OF	1333	4241		401	4241	COM-A DUE TO S	1426
4109		4121	4100	MOD-MENTION OF	1334	4249		0369	0368	COM-A DUE TO S	1427
4109		4122	4100	MOD-MENTION OF	1335	4249	4	0869	0860	COM-MENTION OF	1428
4109		4130	4100	MOD-MENTION OF	1336	4249	4	0970	0939	COM-A DUE TO S	1429
4119		400 -404	4110	COM-MENTION OF	1337	4249	4	0989	0988	COM-A DUE TO S	1430
4119		4100		MOD-MENTION OF	1338	4249	1	390	3911	COM-MENTION OF	1431
4119		4110		DELETION	1339	4249	4	390	3979	COM-MENTION OF	1432
4119		4121	4110	MOD-MENTION OF	1340	4249	5	390	3970	COM-MENTION OF	1433
4119		4122	4110	MOD-MENTION OF	1341	4249	4	3910	3979	COM-MENTION OF	1434
4119		4130	4110	MOD-MENTION OF	1342	4249	4	3910	398	COM-MENTION OF	1435
4122		4121		DELETION	1343	4249	5	3910	3919	COM-MENTION OF	1436
4122		4123	4121	COM-MENTION OF	1344	4249	4	3911	3970	COM-MENTION OF	1437
4123	4	0970	0939	COM-A DUE TO S	1345	4249	4	3911	3979	COM-MENTION OF	1438
4123	4	0979	0939	COM-A DUE TO S	1346	4249	5	3911	3911	COM-MENTION OF	1439
4123		400 -404	4121	COM-MENTION OF	1347	4249	4	3912	3979	COM-MENTION OF	1440
4123		4100	4121	MOD-MENTION OF	1348	4249	4	3919	3979	COM-MENTION OF	1441
4123		4110	4121	MOD-MENTION OF	1349	4249		3949		DELETION	1442
4123		4121		DELETION	1350	4249		3959		DELETION	1443
4123		4122	4121	COM-MENTION OF	1351	4249		3969		DELETION	1444
4123		4130	4121	MOD-MENTION OF	1352	4249	4	3970		DELETION	1445
4124	4	0979	0939	COM-A DUE TO S	1353	4249		398	3979	MOD-MENTION OF	1446
4124		400 -404	4122	COM-MENTION OF	1354	4249		401	4249	COM-A DUE TO S	1447
4124		4100	4122	MOD-MENTION OF	1355	425	4	0869	0860	COM-MENTION OF	1448
4124		4110	4122	MOD-MENTION OF	1356	426	4	0869	0860	COM-MENTION OF	1449
4124		4121-4123		DELETION	1357	426	4	0970	0939	COM-A DUE TO S	1450
4124		4130	4122	MOD-MENTION OF	1358	426	4	0979	0939	COM-A DUE TO S	1451
4139		400 -404	4130	COM-MENTION OF	1359	4270	4	0869	0860	COM-MENTION OF	1452
4139		4100	4130	MOD-MENTION OF	1360	4270		0970	0939	COM-A DUE TO S	1453
4139		4110	4130	MOD-MENTION OF	1361	4270		0979	0939	COM-A DUE TO S	1454
4139		4121	4130	MOD-MENTION OF	1362	4270	1	390	3919	COM-MENTION OF	1455
4139		4122	4130	MOD-MENTION OF	1363	4270	5	390	398	COM-MENTION OF	1456
4139		4130		DELETION	1364	4270	4	3910	398	COM-MENTION OF	1457
420	4	0869	0860	COM-MENTION OF	1365	4270	5	3910	3919	COM-MENTION OF	1458
4210		0369	0368	COM-A DUE TO S	1366	4270	4	3911	398	COM-MENTION OF	1459
4210	4	0869	0860	COM-MENTION OF	1367	4270	5	3911	3919	COM-MENTION OF	1460
4219		0369	0368	COM-A DUE TO S	1368	4270	4	3912	398	COM-MENTION OF	1461
4219	4	0869	0860	COM-MENTION OF	1369	4270	5	3912	3919	COM-MENTION OF	1462
4219	1	390	3911	COM-MENTION OF	1370	4270	1	3929	3920	COM-MENTION OF	1463
4219		3910	3919	MOD-MENTION OF	1371	4270		4000	4001	COM-MENTION OF	1464
4219		3912	3919	MOD-MENTION OF	1372	4270		4001	4001	COM-MENTION OF	1465
4219		393	3919	MOD-MENTION OF	1373	4270		4002	4009	COM-MENTION OF	1466
4219	1	394 -3979	3911	MOD-MENTION OF	1374	4270		4003	4009	COM-MENTION OF	1467
4219		3940	3919	MOD-MENTION OF	1375	4270		401	402	COM-MENTION OF	1468
4219		3950	3919	MOD-MENTION OF	1376	4270		402		DELETION	1469
4219		3959	3919	MOD-MENTION OF	1377	4270		403	404	COM-MENTION OF	1470
4219		3960	3919	MOD-MENTION OF	1378	4270		404		DELETION	1471
4219		398	3919	MOD-MENTION OF	1379	4270		735	426	COM-MENTION OF	1472
422	4	0869	0860	COM-MENTION OF	1380	4271	4	0869	0860	COM-MENTION OF	1473
422	1	390	3912	COM-MENTION OF	1381	4271		0970	0939	COM-A DUE TO S	1474
422	1	3910	3919	COM-MENTION OF	1382	4271		0979	0939	COM-A DUE TO S	1475
422	1	3911	3919	COM-MENTION OF	1383	4271	1	390	3919	COM-MENTION OF	1476
422		393	3919	MOD-MENTION OF	1384	4271	5	390	398	COM-MENTION OF	1477
422		394 -3979	3919	MOD-MENTION OF	1385	4271	4	3910	398	COM-MENTION OF	1478
422	1	398	3912	COM-MENTION OF	1386	4271	5	3910	3919	COM-MENTION OF	1479
422	5	398	3919	COM-MENTION OF	1387	4271	4	3911	398	COM-MENTION OF	1480
423	4	0869	0860	COM-MENTION OF	1388	4271	5	3911	3919	COM-MENTION OF	1481
423		0970	0939	COM-A DUE TO S	1389	4271	4	3912	398	COM-MENTION OF	1482
423		0979	0939	COM-A DUE TO S	1390	4271	5	3912	3919	COM-MENTION OF	1483
423	1	390	3910	COM-MENTION OF	1391	4271	1	3929	3920	COM-MENTION OF	1484
423	5	390	393	COM-MENTION OF	1392	4271		4000	4001	COM-MENTION OF	1485
423	1	3910	393	COM-MENTION OF	1393	4271		4001	4001	COM-MENTION OF	1486
423	1	3911-3912	3919	MOD-MENTION OF	1394	4271		4002	4009	COM-MENTION OF	1487
423	4	792	582	COM-A DUE TO S	1395	4271		4003	4009	COM-MENTION OF	1488

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
4271		401	402	COM-MENTION OF	1489	428		404		DELETION	1582
4271		402		DELETION	1490	428		440	4123	COM-MENTION OF	1583
4271		403	404	COM-MENTION OF	1491	4290	4	0869	0860	COM-MENTION OF	1584
4271		404		DELETION	1492	4290		0970	0939	COM-A DUE TO S	1585
4271		735	426	COM-MENTION OF	1493	4290		0979	0939	COM-A DUE TO S	1586
4272	4	0869	0860	COM-MENTION OF	1494	4290		0989	0988	COM-A DUE TO S	1587
4272		0970	0939	COM-A DUE TO S	1495	4290	1	390	3919	COM-MENTION OF	1588
4272		0979		COM-A DUE TO S	1496	4290	5	390	398	COM-MENTION OF	1589
4272		4000	4001	COM-MENTION OF	1497	4290	4	3910	393	COM-MENTION OF	1590
4272		4001	4001	COM-MENTION OF	1498	4290	4	3910	398	COM-MENTION OF	1591
4272		4002	4009	COM-MENTION OF	1499	4290	5	3910	3919	COM-MENTION OF	1592
4272		4003	4009	COM-MENTION OF	1500	4290	4	3911	393	COM-MENTION OF	1593
4272		401	402	COM-MENTION OF	1501	4290	5	3911	3919	COM-MENTION OF	1594
4272		402		DELETION	1502	4290	4	3912	393	COM-MENTION OF	1595
4272		403	404	COM-MENTION OF	1503	4290	4	3912	398	COM-MENTION OF	1596
4272		404		DELETION	1504	4290	5	3912	3919	COM-MENTION OF	1597
4273	4	0869	0860	COM-MENTION OF	1505	4290	1	3929	3920	COM-MENTION OF	1598
4273		0970	0939	COM-A DUE TO S	1506	4290		4000	4001	COM-MENTION OF	1599
4273		0979	0939	COM-A DUE TO S	1507	4290		4001	4001	COM-MENTION OF	1600
4273		4000	4001	COM-MENTION OF	1508	4290		4002	4009	COM-MENTION OF	1601
4273		4001	4001	COM-MENTION OF	1509	4290		4003	4009	COM-MENTION OF	1602
4273		4002	4009	COM-MENTION OF	1510	4290		401	402	COM-MENTION OF	1603
4273		4003	4009	COM-MENTION OF	1511	4290		402		DELETION	1604
4273		401	402	COM-MENTION OF	1512	4290		403	404	COM-MENTION OF	1605
4273		402		DELETION	1513	4290		404		DELETION	1606
4273		403	404	COM-MENTION OF	1514	4290		5191	4271	COM-MENTION OF	1607
4273		404		DELETION	1515	4290		735	426	COM-MENTION OF	1608
4274	4	0869	0860	COM-MENTION OF	1516	4299	4	0869	0860	COM-MENTION OF	1609
4274		0970	0939	COM-A DUE TO S	1517	4299		0970	0939	COM-A DUE TO S	1610
4274		0979	0939	COM-A DUE TO S	1518	4299		0979	0939	COM-A DUE TO S	1611
4274		4000	4001	COM-MENTION OF	1519	4299		0989	0988	COM-A DUE TO S	1612
4274		4001	4001	COM-MENTION OF	1520	4299	1	390	3919	COM-MENTION OF	1613
4274		4002	4009	COM-MENTION OF	1521	4299	5	390	398	COM-MENTION OF	1614
4274		4003	4009	COM-MENTION OF	1522	4299	4	3910	393	COM-MENTION OF	1615
4274		401	402	COM-MENTION OF	1523	4299	4	3910	398	COM-MENTION OF	1616
4274		402		DELETION	1524	4299	5	3910	3919	COM-MENTION OF	1617
4274		403	404	COM-MENTION OF	1525	4299	4	3911	393	COM-MENTION OF	1618
4274		404		DELETION	1526	4299	5	3911	3919	COM-MENTION OF	1619
4275	4	0869	0860	COM-MENTION OF	1527	4299	4	3912	393	COM-MENTION OF	1620
4275		0970	0939	COM-A DUE TO S	1528	4299	4	3912	398	COM-MENTION OF	1621
4275		0979	0939	COM-A DUE TO S	1529	4299	5	3912	3919	COM-MENTION OF	1622
4275		4000	4001	COM-MENTION OF	1530	4299	1	3929	3920	COM-MENTION OF	1623
4275		4001	4001	COM-MENTION OF	1531	4299		4000	4001	COM-MENTION OF	1624
4275		4002	4009	COM-MENTION OF	1532	4299		4001	4001	COM-MENTION OF	1625
4275		4003	4009	COM-MENTION OF	1533	4299		4002	4009	COM-MENTION OF	1626
4275		401	402	COM-MENTION OF	1534	4299		4003	4009	COM-MENTION OF	1627
4275		402		DELETION	1535	4299		401	402	COM-MENTION OF	1628
4275		403	404	COM-MENTION OF	1536	4299		402		DELETION	1629
4275		404		DELETION	1537	4299		403	404	COM-MENTION OF	1630
4276	4	0869	0860	COM-MENTION OF	1538	4299		404		DELETION	1631
4276		0970	0939	COM-A DUE TO S	1539	4299		5191	4271	COM-MENTION OF	1632
4276		0979	0939	COM-A DUE TO S	1540	4299		735	426	COM-MENTION OF	1633
4276		4000	4001	COM-MENTION OF	1541	4299	1	7824	4270	COM-MENTION OF	1634
4276		4001	4001	COM-MENTION OF	1542	4299	4	794	428	COM-A DUE TO S	1635
4276		4002	4009	COM-MENTION OF	1543	4300		4000	4002	COM-MENTION OF	1636
4276		4003	4009	COM-MENTION OF	1544	4300		4001	4009	COM-MENTION OF	1637
4276		401	402	COM-MENTION OF	1545	4300		4003	4009	COM-MENTION OF	1638
4276		402		DELETION	1546	4300	4	650	674	COM-MENTION OF	1639
4276		403	404	COM-MENTION OF	1547	4309	4	0970	0949	COM-A DUE TO S	1640
4276		404		DELETION	1548	4309	4	0979	0949	COM-A DUE TO S	1641
4279	4	0869	0860	COM-MENTION OF	1549	4309		4000	4002	COM-MENTION OF	1642
4279		0970	0939	COM-A DUE TO S	1550	4309		4001	4009	COM-MENTION OF	1643
4279		0979	0939	COM-A DUE TO S	1551	4309		4003	4009	COM-MENTION OF	1644
4279		4000	4001	COM-MENTION OF	1552	4309		401	4300	COM-MENTION OF	1645
4279		4001	4001	COM-MENTION OF	1553	4309		4300		DELETION	1646
4279		4002	4009	COM-MENTION OF	1554	4309		4310	4300	MOD-MENTION OF	1647
4279		4003	4009	COM-MENTION OF	1555	4309		4320	4300	MOD-MENTION OF	1648
4279		401	402	COM-MENTION OF	1556	4309		4330	4300	MOD-MENTION OF	1649
4279		402		DELETION	1557	4309		4340	4300	MOD-MENTION OF	1650
4279		403	404	COM-MENTION OF	1558	4309		4350	4300	MOD-MENTION OF	1651
4279		404		DELETION	1559	4309		4360	4300	MOD-MENTION OF	1652
428	4	0869	0860	COM-MENTION OF	1560	4309		4370	4300	MOD-MENTION OF	1653
428	4	0970	0939	COM-A DUE TO S	1561	4309		4380	4300	MOD-MENTION OF	1654
428	4	0979	0939	COM-A DUE TO S	1562	4309		442	4309	COM-A DUE TO S	1655
428	1	390	3912	COM-MENTION OF	1563	4309	4	650	674	COM-MENTION OF	1656
428	5	390	398	COM-MENTION OF	1564	4310		4000	4002	COM-MENTION OF	1657
428	1	3910	398	COM-MENTION OF	1565	4310		4001	4009	COM-MENTION OF	1658
428	4	3910	3919	COM-MENTION OF	1566	4310		4003	4009	COM-MENTION OF	1659
428	4	3910	393	COM-MENTION OF	1567	4310	4	650	674	COM-MENTION OF	1660
428	5	3910	3912	COM-MENTION OF	1568	4319		0970	0949	COM-A DUE TO S	1661
428	1	3911	3919	COM-MENTION OF	1569	4319		0979	0949	COM-A DUE TO S	1662
428	4	3911	393	COM-MENTION OF	1570	4319		4000	4002	COM-MENTION OF	1663
428	4	3911	398	COM-MENTION OF	1571	4319		4001	4009	COM-MENTION OF	1664
428	5	3911	3912	COM-MENTION OF	1572	4319		4003	4009	COM-MENTION OF	1665
428	1	3929	3920	COM-MENTION OF	1573	4319		401	4310	COM-MENTION OF	1666
428		398		DELETION	1574	4319	1	4210	4309	MOD-MENTION OF	1667
428		4000	4001	COM-MENTION OF	1575	4319		4300	4310	MOD-MENTION OF	1668
428		4001	4001	COM-MENTION OF	1576	4319		4310		DELETION	1669
428		4002	4009	COM-MENTION OF	1577	4319		4320	4310	MOD-MENTION OF	1670
428		4003	4009	COM-MENTION OF	1578	4319		4330	4310	MOD-MENTION OF	1671
428		401	402	COM-MENTION OF	1579	4319		4340	4310	MOD-MENTION OF	1672
428		402		DELETION	1580	4319		4350	4310	MOD-MENTION OF	1673
428		403	404	COM-MENTION OF	1581	4319		4360	4310	MOD-MENTION OF	1674

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHDR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
4319		4370	4310	MOD-MENTION OF	1675	4369		4320	4360	MOD-MENTION OF	1768
4319		4380	4310	MOD-MENTION OF	1676	4369		4330	4360	MOD-MENTION OF	1769
4319	3	442	4309	COM-A DUE TO S	1677	4369		4340	4360	MOD-MENTION OF	1770
4319	4	650	674	COM-MENTION OF	1678	4369		4350	4360	MOD-MENTION OF	1771
4319	2	7476	4309	COM-MENTION OF	1679	4369		4360		DELETION	1772
4319	2	7478	4309	COM-MENTION OF	1680	4369		4370	4360	MOD-MENTION OF	1773
4320		4000	4002	COM-MENTION OF	1681	4369		4380	4360	MOD-MENTION OF	1774
4320		4001	4009	COM-MENTION OF	1682	4369	4	650	674	COM-MENTION OF	1775
4320		4003	4009	COM-MENTION OF	1683	4370		4000	4002	COM-MENTION OF	1776
4320	4	650	674	COM-MENTION OF	1684	4370		4001	4009	COM-MENTION OF	1777
4329		0970	0949	COM-A DUE TO S	1685	4370		4003	4009	COM-MENTION OF	1778
4329		0979	0949	COM-A DUE TO S	1686	4370	4	650	674	COM-MENTION OF	1779
4329		4000	4002	COM-MENTION OF	1687	4379	4	0970	0949	COM-A DUE TO S	1780
4329		4001	4009	COM-MENTION OF	1688	4379	4	0979	0949	COM-A DUE TO S	1781
4329		4003	4009	COM-MENTION OF	1689	4379		4000	4002	COM-MENTION OF	1782
4329		401	4320	COM-MENTION OF	1690	4379		4001	4009	COM-MENTION OF	1783
4329		4300	4320	MOD-MENTION OF	1691	4379		4003	4009	COM-MENTION OF	1784
4329		4310	4320	MOD-MENTION OF	1692	4379		401	4370	COM-MENTION OF	1785
4329		4320		DELETION	1693	4379		4300	4370	MOD-MENTION OF	1786
4329		4330	4320	MOD-MENTION OF	1694	4379		4310	4370	MOD-MENTION OF	1787
4329		4340	4320	MOD-MENTION OF	1695	4379		4320	4370	MOD-MENTION OF	1788
4329		4350	4320	MOD-MENTION OF	1696	4379		4330	4370	MOD-MENTION OF	1789
4329		4360	4320	MOD-MENTION OF	1697	4379		4340	4370	MOD-MENTION OF	1790
4329		4370	4320	MOD-MENTION OF	1698	4379		4360	4370	MOD-MENTION OF	1791
4329		4380	4320	MOD-MENTION OF	1699	4379		4370		DELETION	1792
4329	4	650	674	COM-MENTION OF	1700	4379		4380	4370	MOD-MENTION OF	1793
4330		4000	4002	COM-MENTION OF	1701	4379	4	650	674	COM-MENTION OF	1794
4330		4001	4009	COM-MENTION OF	1702	4380		4000	4002	COM-MENTION OF	1795
4330		4003	4009	COM-MENTION OF	1703	4380		4001	4009	COM-MENTION OF	1796
4330	4	650	674	COM-MENTION OF	1704	4380		4003	4009	COM-MENTION OF	1797
4339		0970	0949	COM-A DUE TO S	1705	4380	1	4401	4370	MOD-A DUE TO S	1798
4339		0979	0949	COM-A DUE TO S	1706	4380	2	4409	4370	MOD-A DUE TO S	1799
4339		4000	4002	COM-MENTION OF	1707	4380	4	650	674	COM-MENTION OF	1800
4339		4001	4009	COM-MENTION OF	1708	4389	4	0970	0949	COM-A DUE TO S	1801
4339		4003	4009	COM-MENTION OF	1709	4389	4	0979	0949	COM-A DUE TO S	1802
4339		401	4330	COM-MENTION OF	1710	4389		4000	4002	COM-MENTION OF	1803
4339		4300	4330	MOD-MENTION OF	1711	4389		4001	4009	COM-MENTION OF	1804
4339		4310	4330	MOD-MENTION OF	1712	4389		4003	4009	COM-MENTION OF	1805
4339		4320	4330	MOD-MENTION OF	1713	4389		401	4380	COM-MENTION OF	1806
4339		4330		DELETION	1714	4389		4300	4380	MOD-MENTION OF	1807
4339		4340	4330	MOD-MENTION OF	1715	4389		4310	4380	MOD-MENTION OF	1808
4339		4350	4330	MOD-MENTION OF	1716	4389		4320	4380	MOD-MENTION OF	1809
4339		4360	4330	MOD-MENTION OF	1717	4389		4330	4380	MOD-MENTION OF	1810
4339		4370	4330	MOD-MENTION OF	1718	4389		4340	4380	MOD-MENTION OF	1811
4339		4380	4330	MOD-MENTION OF	1719	4389		4350	4380	MOD-MENTION OF	1812
4339	4	650	674	COM-MENTION OF	1720	4389		4360	4380	MOD-MENTION OF	1813
4340		4000	4002	COM-MENTION OF	1721	4389		4370	4380	MOD-MENTION OF	1814
4340		4001	4009	COM-MENTION OF	1722	4389		4380		DELETION	1815
4340		4003	4009	COM-MENTION OF	1723	4389	2	4400	4379	MOD-A DUE TO S	1816
4340	4	650	674	COM-MENTION OF	1724	4389	1	4401	4379	MOD-A DUE TO S	1817
4349		4000	4002	COM-MENTION OF	1725	4389	1	4402	4379	MOD-A DUE TO S	1818
4349		4001	4009	COM-MENTION OF	1726	4389	1	4403	4379	MOD-A DUE TO S	1819
4349		4003	4009	COM-MENTION OF	1727	4389	2	4409	4379	MOD-A DUE TO S	1820
4349		401	4340	COM-MENTION OF	1728	4389	4	650	674	COM-MENTION OF	1821
4349		4300	4340	MOD-MENTION OF	1729	4400		428	4123	COM-MENTION OF	1822
4349		4310	4340	MOD-MENTION OF	1730	4400		4450		DELETION	1823
4349		4320	4340	MOD-MENTION OF	1731	4400		4459	4450	COM-MENTION OF	1824
4349		4330	4340	MOD-MENTION OF	1732	4401	4	0970	0939	COM-A DUE TO S	1825
4349		4340		DELETION	1733	4401	4	0979	0939	COM-A DUE TO S	1826
4349		4350	4340	MOD-MENTION OF	1734	4401		428	4123	COM-MENTION OF	1827
4349		4360	4340	MOD-MENTION OF	1735	4401		4450		DELETION	1828
4349		4370	4340	MOD-MENTION OF	1736	4401		4459	4450	COM-MENTION OF	1829
4349		4380	4340	MOD-MENTION OF	1737	4402	4	0970	0939	COM-A DUE TO S	1830
4349	4	650	674	COM-MENTION OF	1738	4402	4	0979	0939	COM-A DUE TO S	1831
4350		4000	4002	COM-MENTION OF	1739	4402		428	4123	COM-MENTION OF	1832
4350		4001	4009	COM-MENTION OF	1740	4402		4450		DELETION	1833
4350		4003	4009	COM-MENTION OF	1741	4402		4459	4450	COM-MENTION OF	1834
4359	4	0970	0949	COM-A DUE TO S	1742	4403	4	0970	0939	COM-A DUE TO S	1835
4359	4	0979	0949	COM-A DUE TO S	1743	4403	4	0979	0939	COM-A DUE TO S	1836
4359		4000	4002	COM-MENTION OF	1744	4403		428	4123	COM-MENTION OF	1837
4359		4001	4009	COM-MENTION OF	1745	4403		4450		DELETION	1838
4359		4003	4009	COM-MENTION OF	1746	4403		4459	4450	COM-MENTION OF	1839
4359		401	4350	COM-MENTION OF	1747	4409	4	0970	0939	COM-A DUE TO S	1840
4359		4300	4350	MOD-MENTION OF	1748	4409	4	0979	0939	COM-A DUE TO S	1841
4359		4310	4350	MOD-MENTION OF	1749	4409		428	4123	COM-MENTION OF	1842
4359		4320	4350	MOD-MENTION OF	1750	4409		4400-4403		DELETION	1843
4359		4330	4350	MOD-MENTION OF	1751	4409		4450		DELETION	1844
4359		4340	4350	MOD-MENTION OF	1752	4409		4459	4450	COM-MENTION OF	1845
4359		4350		DELETION	1753	4410	5	0970	0930	COM-A DUE TO S	1846
4359		4360	4350	MOD-MENTION OF	1754	4410		0979	0930	COM-A DUE TO S	1847
4359		4380	4350	MOD-MENTION OF	1755	4411		0939	0930	COM-A DUE TO S	1848
4360		4000	4002	COM-MENTION OF	1756	4411	5	0970	0930	COM-A DUE TO S	1849
4360		4001	4009	COM-MENTION OF	1757	4411		0979	0930	COM-A DUE TO S	1850
4360		4003	4009	COM-MENTION OF	1758	4412	5	0970	0930	COM-A DUE TO S	1851
4360	4	650	674	COM-MENTION OF	1759	4412		0979	0930	COM-A DUE TO S	1852
4369	4	0970	0949	COM-A DUE TO S	1760	4419	1	0970	095	COM-A DUE TO S	1853
4369	4	0979	0949	COM-A DUE TO S	1761	4419	5	0970	0930	COM-A DUE TO S	1854
4369		4000	4002	COM-MENTION OF	1762	4419		0979	0930	COM-A DUE TO S	1855
4369		4001	4009	COM-MENTION OF	1763	4419		4410-4412		DELETION	1856
4369		4003	4009	COM-MENTION OF	1764	442	4	0970	0949	COM-A DUE TO S	1857
4369		401	4360	COM-MENTION OF	1765	442	5	0970	0939	COM-A DUE TO S	1858
4369		4300	4360	MOD-MENTION OF	1766	442	4	0979	0949	COM-A DUE TO S	1859
4369		4310	4360	MOD-MENTION OF	1767	442	5	0979	0939	COM-A DUE TO S	1860

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
442	1	4400	4379	MOD-A DUE TO S	1861	4449		6421	6422	COM-MENTION OF	1954
442	1	4401	4379	MOD-A DUE TO S	1862	4449	1	6429	6420	COM-MENTION OF	1955
442	1	4402	4379	MOD-A DUE TO S	1863	4449		6431	6432	COM-MENTION OF	1956
442	1	4403	4379	MOD-A DUE TO S	1864	4449	1	6439	6430	COM-MENTION OF	1957
4439		4430-4438		DELETION	1865	4449		6441	6442	COM-MENTION OF	1958
4440		6314	6310	COM-MENTION OF	1866	4449	1	6449	6440	COM-MENTION OF	1959
4440		6315	6311	COM-MENTION OF	1867	4449		6451	6452	COM-MENTION OF	1960
4440		6316	6312	COM-MENTION OF	1868	4449	1	6459	6450	COM-MENTION OF	1961
4440		6319	6313	COM-MENTION OF	1869	4459		250		DELETION	1962
4440		6401	6402	COM-MENTION OF	1870	4459		440	4450	COM-MENTION OF	1963
4440	1	6409	6400	COM-MENTION OF	1871	4459		4450		DELETION	1964
4440		6411	6412	COM-MENTION OF	1872	4459	4	550	552	COM-MENTION OF	1965
4440	1	6419	6410	COM-MENTION OF	1873	4459	4	5510	5530	COM-MENTION OF	1966
4440		6421	6422	COM-MENTION OF	1874	4459	4	5511	5531	COM-MENTION OF	1967
4440	1	6429	6420	COM-MENTION OF	1875	4459	4	5512	5532	COM-MENTION OF	1968
4440		6431	6432	COM-MENTION OF	1876	4459	4	5513	5533	COM-MENTION OF	1969
4440	1	6439	6430	COM-MENTION OF	1877	4459	4	5518	5538	COM-MENTION OF	1970
4440		6441	6442	COM-MENTION OF	1878	4459	4	5519	5539	COM-MENTION OF	1971
4440	1	6449	6440	COM-MENTION OF	1879	4469	4	0970	0939	COM-A DUE TO S	1972
4440		6451	6452	COM-MENTION OF	1880	4469	4	0979	0939	COM-A DUE TO S	1973
4440	1	6459	6450	COM-MENTION OF	1881	447	4	0970	0949	COM-A DUE TO S	1974
4441		6314	6310	COM-MENTION OF	1882	447	5	0970	0939	COM-A DUE TO S	1975
4441		6315	6311	COM-MENTION OF	1883	447	4	0979	0949	COM-A DUE TO S	1976
4441		6316	6312	COM-MENTION OF	1884	447	5	0979	0939	COM-A DUE TO S	1977
4441		6319	6313	COM-MENTION OF	1885	450		6314	6310	COM-MENTION OF	1978
4441		6401	6402	COM-MENTION OF	1886	450		6315	6311	COM-MENTION OF	1979
4441	1	6409	6400	COM-MENTION OF	1887	450		6316	6312	COM-MENTION OF	1980
4441		6411	6412	COM-MENTION OF	1888	450		6319	6313	COM-MENTION OF	1981
4441	1	6419	6410	COM-MENTION OF	1889	450		6401	6402	COM-MENTION OF	1982
4441		6421	6422	COM-MENTION OF	1890	450	3	6409	6400	COM-MENTION OF	1983
4441	1	6429	6420	COM-MENTION OF	1891	450		6411	6412	COM-MENTION OF	1984
4441		6431	6432	COM-MENTION OF	1892	450	3	6419	6410	COM-MENTION OF	1985
4441	1	6439	6430	COM-MENTION OF	1893	450		6421	6422	COM-MENTION OF	1986
4441		6441	6442	COM-MENTION OF	1894	450	3	6429	6420	COM-MENTION OF	1987
4441	1	6449	6440	COM-MENTION OF	1895	450		6431	6432	COM-MENTION OF	1988
4441		6451	6452	COM-MENTION OF	1896	450	3	6439	6430	COM-MENTION OF	1989
4441	1	6459	6450	COM-MENTION OF	1897	450		6441	6442	COM-MENTION OF	1990
4442		6314	6310	COM-MENTION OF	1898	450	3	6449	6440	COM-MENTION OF	1991
4442		6315	6311	COM-MENTION OF	1899	450		6451	6452	COM-MENTION OF	1992
4442		6316	6312	COM-MENTION OF	1900	450	4	6459	6450	COM-MENTION OF	1993
4442		6319	6313	COM-MENTION OF	1901	4510		0970	0939	COM-A DUE TO S	1994
4442		6401	6402	COM-MENTION OF	1902	4510		0979	0939	COM-A DUE TO S	1995
4442	1	6409	6400	COM-MENTION OF	1903	4510		6314	6310	COM-MENTION OF	1996
4442		6411	6412	COM-MENTION OF	1904	4510		6315	6311	COM-MENTION OF	1997
4442	1	6419	6410	COM-MENTION OF	1905	4510		6316	6312	COM-MENTION OF	1998
4442		6421	6422	COM-MENTION OF	1906	4510		6319	6313	COM-MENTION OF	1999
4442	1	6429	6420	COM-MENTION OF	1907	4510		6401	6402	COM-MENTION OF	2000
4442		6431	6432	COM-MENTION OF	1908	4510	3	6409	6400	COM-MENTION OF	2001
4442	1	6439	6430	COM-MENTION OF	1909	4510		6411	6412	COM-MENTION OF	2002
4442		6441	6442	COM-MENTION OF	1910	4510	3	6419	6410	COM-MENTION OF	2003
4442	1	6449	6440	COM-MENTION OF	1911	4510		6421	6422	COM-MENTION OF	2004
4442		6451	6452	COM-MENTION OF	1912	4510	3	6429	6420	COM-MENTION OF	2005
4442	1	6459	6450	COM-MENTION OF	1913	4510		6431	6432	COM-MENTION OF	2006
4443		6314	6310	COM-MENTION OF	1914	4510	3	6439	6430	COM-MENTION OF	2007
4443		6315	6311	COM-MENTION OF	1915	4510		6441	6442	COM-MENTION OF	2008
4443		6316	6312	COM-MENTION OF	1916	4510	3	6449	6440	COM-MENTION OF	2009
4443		6319	6313	COM-MENTION OF	1917	4510		6451	6452	COM-MENTION OF	2010
4443		6401	6402	COM-MENTION OF	1918	4510	4	6459	6450	COM-MENTION OF	2011
4443	1	6409	6400	COM-MENTION OF	1919	4519		0970	0939	COM-A DUE TO S	2012
4443		6411	6412	COM-MENTION OF	1920	4519		0979	0939	COM-A DUE TO S	2013
4443	1	6419	6410	COM-MENTION OF	1921	4519		6314	6310	COM-MENTION OF	2014
4443		6421	6422	COM-MENTION OF	1922	4519		6315	6311	COM-MENTION OF	2015
4443	1	6429	6420	COM-MENTION OF	1923	4519		6316	6312	COM-MENTION OF	2016
4443		6431	6432	COM-MENTION OF	1924	4519		6319	6313	COM-MENTION OF	2017
4443	1	6439	6430	COM-MENTION OF	1925	4519		6401	6402	COM-MENTION OF	2018
4443		6441	6442	COM-MENTION OF	1926	4519	3	6409	6400	COM-MENTION OF	2019
4443	1	6449	6440	COM-MENTION OF	1927	4519		6411	6412	COM-MENTION OF	2020
4443		6451	6452	COM-MENTION OF	1928	4519	3	6419	6410	COM-MENTION OF	2021
4443	1	6459	6450	COM-MENTION OF	1929	4519		6421	6422	COM-MENTION OF	2022
4444		6314	6310	COM-MENTION OF	1930	4519	3	6429	6420	COM-MENTION OF	2023
4444		6315	6311	COM-MENTION OF	1931	4519		6431	6432	COM-MENTION OF	2024
4444		6316	6312	COM-MENTION OF	1932	4519	3	6439	6430	COM-MENTION OF	2025
4444		6319	6313	COM-MENTION OF	1933	4519		6441	6442	COM-MENTION OF	2026
4444		6401	6402	COM-MENTION OF	1934	4519	3	6449	6440	COM-MENTION OF	2027
4444	1	6409	6400	COM-MENTION OF	1935	4519		6451	6452	COM-MENTION OF	2028
4444		6411	6412	COM-MENTION OF	1936	4519	4	6459	6450	COM-MENTION OF	2029
4444	1	6419	6410	COM-MENTION OF	1937	452		0970	0939	COM-A DUE TO S	2030
4444		6421	6422	COM-MENTION OF	1938	452		0979	0939	COM-A DUE TO S	2031
4444	1	6429	6420	COM-MENTION OF	1939	453		6314	6310	COM-MENTION OF	2032
4444		6431	6432	COM-MENTION OF	1940	453		6315	6311	COM-MENTION OF	2033
4444	1	6439	6430	COM-MENTION OF	1941	453		6316	6312	COM-MENTION OF	2034
4444		6441	6442	COM-MENTION OF	1942	453		6319	6313	COM-MENTION OF	2035
4444	1	6449	6440	COM-MENTION OF	1943	453	2	6401	6402	COM-MENTION OF	2036
4444		6451	6452	COM-MENTION OF	1944	453	2	6409	6400	COM-MENTION OF	2037
4444	1	6459	6450	COM-MENTION OF	1945	453	2	6411	6412	COM-MENTION OF	2038
4449		6314	6310	COM-MENTION OF	1946	453	2	6419	6410	COM-MENTION OF	2039
4449		6315	6311	COM-MENTION OF	1947	453	2	6421	6412	COM-MENTION OF	2040
4449		6316	6312	COM-MENTION OF	1948	453	2	6429	6422	COM-MENTION OF	2041
4449		6319	6313	COM-MENTION OF	1949	453	2	6429	6420	COM-MENTION OF	2042
4449		6401	6402	COM-MENTION OF	1950	453	2	6429	6420	COM-MENTION OF	2043
4449	1	6409	6400	COM-MENTION OF	1951	453	2	6431	6432	COM-MENTION OF	2044
4449		6411	6412	COM-MENTION OF	1952	453	2	6439	6430	COM-MENTION OF	2045
4449	1	6419	6410	COM-MENTION OF	1953	453	2	6441	6442	COM-MENTION OF	2046

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
453	2	6449	6440	COM-MENTION OF	2047	483		470	471	COM-MENTION OF	2140
453	2	6450	6452	COM-MENTION OF	2048	483		472 -474	471	MOD-MENTION OF	2141
453		6451	6452	COM-MENTION OF	2049	484		470	471	COM-MENTION OF	2142
453	2	6459	6450	COM-MENTION OF	2050	484		472 -474	471	MOD-MENTION OF	2143
4541		7071-7079	4540	COM-MENTION OF	2051	485		470	471	COM-MENTION OF	2144
4549		4541		DELETION	2052	485		472 -474	471	MOD-MENTION OF	2145
4549		7071-7079	4540	COM-MENTION OF	2053	486		0382	481	COM-MENTION OF	2146
457		681		DELETION	2054	486		470	471	COM-MENTION OF	2147
457	4	682		DELETION	2055	486		472 -474	471	MOD-MENTION OF	2148
4589	2	0970	0939	COM-A DUE TO S	2056	486		480 -485		DELETION	2149
4589	4	0979	0939	COM-A DUE TO S	2057	490	2	464	466	COM-MENTION OF	2150
4589	3	5311	5312	COM-MENTION OF	2058	490		470	472	COM-MENTION OF	2151
4589	3	5319	5310	COM-MENTION OF	2059	490		473 -474	472	MOD-MENTION OF	2152
4589	3	5321	5322	COM-MENTION OF	2060	490		492	491	COM-A DUE TO S	2153
4589	3	5329	5320	COM-MENTION OF	2061	490		492	491	MOD-MENTION OF	2154
4589	3	5341	5340	COM-MENTION OF	2062	490		5193	491	MOD-MENTION OF	2155
4589	3	5341	5342	COM-MENTION OF	2063	491		492	491	COM-A DUE TO S	2156
4589	3	5349	5340	COM-MENTION OF	2064	491	1	506		DELETION	2157
4589	4	6779	6772	COM-MENTION OF	2065	493		466		DELETION	2158
4589	4	7079	5339	COM-MENTION OF	2066	500		0970	095	COM-A DUE TO S	2159
4589	1	7833	7831	COM-MENTION OF	2067	500		0979	095	COM-A DUE TO S	2160
460	4	0799	460	COM-A DUE TO S	2068	5020		0119	0129	COM-A DUE TO S	2161
460	4	0909	0900	COM-A DUE TO S	2069	5021		0970	095	COM-A DUE TO S	2162
460		0970	095	COM-A DUE TO S	2070	5021		0979	095	COM-A DUE TO S	2163
460		0979	095	COM-A DUE TO S	2071	5021	1	462	460	COM-MENTION OF	2164
460		470	472	COM-MENTION OF	2072	5021	1	507		DELETION	2165
460		473 -474	472	MOD-MENTION OF	2073	5030	4	0119	0129	COM-A DUE TO S	2166
4610	1	0119	0129	COM-A DUE TO S	2074	5030	1	470	472	COM-MENTION OF	2167
4610		470	472	COM-MENTION OF	2075	5030		473 -474	472	MOD-MENTION OF	2168
4610		473 -474	472	MOD-MENTION OF	2076	5031	4	0119	0129	COM-A DUE TO S	2169
4611	1	0119	0129	COM-A DUE TO S	2077	5031	1	470	472	COM-MENTION OF	2170
4611		470	472	COM-MENTION OF	2078	5031		473 -474	472	MOD-MENTION OF	2171
4611		473 -474	472	MOD-MENTION OF	2079	5039	4	0119	0129	COM-A DUE TO S	2172
4619	1	0119	0129	COM-A DUE TO S	2080	5039		0970	095	COM-A DUE TO S	2173
4619		470	472	COM-MENTION OF	2081	5039		0979	095	COM-A DUE TO S	2174
4619		473 -474	472	MOD-MENTION OF	2082	5039	1	470	472	COM-MENTION OF	2175
462	1	0119	0129	COM-A DUE TO S	2083	5039		473 -474	472	MOD-MENTION OF	2176
462	4	0799	462	COM-A DUE TO S	2084	507		493		DELETION	2177
462		470	472	COM-MENTION OF	2085	5080		0970	095	COM-A DUE TO S	2178
462		473 -474	472	MOD-MENTION OF	2086	5080		0979	095	COM-A DUE TO S	2179
462	1	5021	460	COM-MENTION OF	2087	5083		0970	095	COM-A DUE TO S	2180
463	1	0119	0129	COM-A DUE TO S	2088	5083		0979	095	COM-A DUE TO S	2181
463	4	0799	463	COM-A DUE TO S	2089	5089		0970	095	COM-A DUE TO S	2182
463		470	472	COM-MENTION OF	2090	5089		0979	095	COM-A DUE TO S	2183
463		473 -474	472	MOD-MENTION OF	2091	510		0119	0121	COM-A DUE TO S	2184
464	1	0119	0129	COM-A DUE TO S	2092	5110	4	011	0121	COM-MENTION OF	2185
464	5	0119	0123	COM-A DUE TO S	2093	5110		0970	095	COM-A DUE TO S	2186
464	4	0799	464	COM-A DUE TO S	2094	5110		0979	095	COM-A DUE TO S	2187
464		0970	095	COM-A DUE TO S	2095	5110		470	472	COM-MENTION OF	2188
464		0979	095	COM-A DUE TO S	2096	5110		473 -474	472	MOD-MENTION OF	2189
464	2	466		DELETION	2097	5112		0119	0121	COM-A DUE TO S	2190
464		470	472	COM-MENTION OF	2098	514	1	470	471	COM-MENTION OF	2191
464		473 -474	472	MOD-MENTION OF	2099	514		472 -474	471	MOD-MENTION OF	2192
464	2	490	466	COM-MENTION OF	2100	5150		011 -0129	010	COM-MENTION OF	2193
464	5	490		DELETION	2101	5151		011 -0129	010	COM-MENTION OF	2194
464	2	491		DELETION	2102	5152		011 -0129	010	COM-MENTION OF	2195
464	2	506		DELETION	2103	5159		011 -0129	010	COM-MENTION OF	2196
465	4	0799	465	COM-A DUE TO S	2104	517		011		DELETION	2197
465		470	472	COM-MENTION OF	2105	5191		429	4271	COM-MENTION OF	2198
465		473 -474	472	MOD-MENTION OF	2106	5191	1	470	472	COM-MENTION OF	2199
466	4	0799	466	COM-A DUE TO S	2107	5191	1	472 -474	472	MOD-MENTION OF	2200
466		470	472	COM-MENTION OF	2108	5191		7824	4271	COM-MENTION OF	2201
466		473 -474	472	MOD-MENTION OF	2109	5192	4	010 -0119		DELETION	2202
470	4	0089	473	COM-MENTION OF	2110	5192	4	0190		DELETION	2203
470		009	473	COM-MENTION OF	2111	5192	4	0201		DELETION	2204
470	4	3209	474	COM-MENTION OF	2112	5192	4	0310		DELETION	2205
470	2	323	474	COM-MENTION OF	2113	5192		0970	095	COM-A DUE TO S	2206
470		460 -466	472	COM-MENTION OF	2114	5192		0979	095	COM-A DUE TO S	2207
470		471		DELETION	2115	5192	4	1212		DELETION	2208
470		480 -486	471	COM-MENTION OF	2116	5192	4	1221		DELETION	2209
470		490	472	COM-MENTION OF	2117	5192	4	1621		DELETION	2210
470	1	503	472	COM-MENTION OF	2118	5192	4	1970		DELETION	2211
470		5110	472	COM-MENTION OF	2119	5192	4	2123		DELETION	2212
470	1	514	471	COM-MENTION OF	2120	5192	4	2313		DELETION	2213
470	1	5191	472	COM-MENTION OF	2121	5192	4	450		DELETION	2214
470		5192	471	COM-MENTION OF	2122	5192	4	466		DELETION	2215
470		561	473	COM-MENTION OF	2123	5192	4	470	471	COM-MENTION OF	2216
470		7831	472	COM-MENTION OF	2124	5192	4	471		DELETION	2217
470		7833	472	COM-MENTION OF	2125	5192	4	480 -493		DELETION	2218
480		470	471	COM-MENTION OF	2126	5192	4	510 -5112		DELETION	2219
480		472 -474	471	MOD-MENTION OF	2127	5192	4	512 -513		DELETION	2220
481		470	471	COM-MENTION OF	2128	5192	4	515 -518		DELETION	2221
481		472 -474	471	MOD-MENTION OF	2129	5192	4	5193		DELETION	2222
4820		470	471	COM-MENTION OF	2130	5192	4	7486		DELETION	2223
4820		472 -474	471	MOD-MENTION OF	2131	5193		491		DELETION	2224
4821		470	471	COM-MENTION OF	2132	5193		492		DELETION	2225
4821		472 -474	471	MOD-MENTION OF	2133	5193		493		DELETION	2226
4822		470	471	COM-MENTION OF	2134	5199	2	010 -0129		DELETION	2227
4822		472 -474	471	MOD-MENTION OF	2135	5199	2	0190		DELETION	2228
4823		470	471	COM-MENTION OF	2136	5199	2	0310		DELETION	2229
4823		472 -474	471	MOD-MENTION OF	2137	5199	2	033 -0341		DELETION	2230
4829		470	471	COM-MENTION OF	2138	5199		0970	095	COM-A DUE TO S	2231
4829		472 -474	471	MOD-MENTION OF	2139	5199		0979	095	COM-A DUE TO S	2232

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

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AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
5199	2	1212		DELETION	2233	543		0119	014	COM-A DUE TO S	2326
5199	2	1221		DELETION	2234	550	4	4459	552	COM-MENTION OF	2327
5199	2	146 -1489		DELETION	2235	550		560	552	COM-MENTION OF	2328
5199	2	160 -1639		DELETION	2236	550	3	5699	552	COM-MENTION OF	2329
5199	2	1961		DELETION	2237	5510	4	4459	5530	COM-MENTION OF	2330
5199	2	1970-1973		DELETION	2238	5510		560	5530	COM-MENTION OF	2331
5199	2	2105-2109		DELETION	2239	5510	2	5699	5530	COM-MENTION OF	2332
5199	2	212		DELETION	2240	5511	4	4459	5531	COM-MENTION OF	2333
5199	2	231		DELETION	2241	5511		560	5531	COM-MENTION OF	2334
5199	2	450		DELETION	2242	5511	2	5699	5531	COM-MENTION OF	2335
5199	2	461 -464		DELETION	2243	5512	4	4459	5532	COM-MENTION OF	2336
5199	2	466		DELETION	2244	5512		560	5532	COM-MENTION OF	2337
5199	5	470	472	COM-A DUE TO S	2245	5512	2	5699	5532	COM-MENTION OF	2338
5199	2	470 -513		DELETION	2246	5512	1	7568	5513	COM-MENTION OF	2339
5199	2	515 -518		DELETION	2247	5513	4	4459	5533	COM-MENTION OF	2340
5199	2	5193		DELETION	2248	5513		560	5533	COM-MENTION OF	2341
5200		5243		DELETION	2249	5513	2	5699	5533	COM-MENTION OF	2342
5201		5243		DELETION	2250	5518	4	4459	5538	COM-MENTION OF	2343
5206		5243		DELETION	2251	5518		560	5538	COM-MENTION OF	2344
5225		5227		DELETION	2252	5518	2	5699	5538	COM-MENTION OF	2345
5244		5243		DELETION	2253	5519	4	4459	5539	COM-MENTION OF	2346
5250		5243		DELETION	2254	5519		550		DELETION	2347
5269		0970	095	COM-A DUE TO S	2255	5519		5510-5518		DELETION	2348
5269		0979	095	COM-A DUE TO S	2256	5519		552 -5539		DELETION	2349
5280		7882	0749	COM-MENTION OF	2257	5519		560	5539	COM-MENTION OF	2350
5285		0970	095	COM-A DUE TO S	2258	5519	2	5699	5539	COM-MENTION OF	2351
5285		0979	095	COM-A DUE TO S	2259	5519	1	7568	5513	COM-MENTION OF	2352
5285	1	262		DELETION	2260	5600		550	552	COM-MENTION OF	2353
5289		0970	095	COM-A DUE TO S	2261	5600		5510	5530	COM-MENTION OF	2354
5289		0979	095	COM-A DUE TO S	2262	5600		5511	5531	COM-MENTION OF	2355
5299		0970	095	COM-A DUE TO S	2263	5600		5512	5532	COM-MENTION OF	2356
5299		0979	095	COM-A DUE TO S	2264	5600		5513	5533	COM-MENTION OF	2357
5301		0970	095	COM-A DUE TO S	2265	5600		5518	5538	COM-MENTION OF	2358
5301		0979	095	COM-A DUE TO S	2266	5600		5519	5539	COM-MENTION OF	2359
5303		0970	095	COM-A DUE TO S	2267	5600		552 -5539		DELETION	2360
5303		0979	095	COM-A DUE TO S	2268	5601		550	552	COM-MENTION OF	2361
5309		0970	095	COM-A DUE TO S	2269	5601		5510	5530	COM-MENTION OF	2362
5309		0979	095	COM-A DUE TO S	2270	5601		5511	5531	COM-MENTION OF	2363
5310		5311	5312	COM-MENTION OF	2271	5601		5512	5532	COM-MENTION OF	2364
5310		5321	5322	COM-MENTION OF	2272	5601		5513	5533	COM-MENTION OF	2365
5311		0970	095	COM-A DUE TO S	2273	5601		5518	5538	COM-MENTION OF	2366
5311		0979	095	COM-A DUE TO S	2274	5601		5519	5539	COM-MENTION OF	2367
5311	3	4589	5312	COM-MENTION OF	2275	5601		552 -5539		DELETION	2368
5311		5310	5312	COM-MENTION OF	2276	5601		5749	5603	COM-A DUE TO S	2369
5311	4	5699	5312	COM-MENTION OF	2277	5602		550	552	COM-MENTION OF	2370
5311		7845	5312	COM-MENTION OF	2278	5602		5510	5530	COM-MENTION OF	2371
5319	3	4589	5310	COM-MENTION OF	2279	5602		5511	5531	COM-MENTION OF	2372
5319	4	5379	5319	COM-MENTION OF	2280	5602		5512	5532	COM-MENTION OF	2373
5319	4	5699	5310	COM-MENTION OF	2281	5602		5513	5533	COM-MENTION OF	2374
5319		7845	5310	COM-MENTION OF	2282	5602		5518	5538	COM-MENTION OF	2375
5320		5321	5322	COM-MENTION OF	2283	5602		5519	5539	COM-MENTION OF	2376
5321		0970	095	COM-A DUE TO S	2284	5602		552 -5539		DELETION	2377
5321		0979	095	COM-A DUE TO S	2285	5603		550	552	COM-MENTION OF	2378
5321	3	4589	5322	COM-MENTION OF	2286	5603		5510	5530	COM-MENTION OF	2379
5321		5310	5322	COM-MENTION OF	2287	5603		5511	5531	COM-MENTION OF	2380
5321		5320	5322	COM-MENTION OF	2288	5603		5512	5532	COM-MENTION OF	2381
5321	4	5379	5322	COM-MENTION OF	2289	5603		5513	5533	COM-MENTION OF	2382
5321	4	5699	5322	COM-MENTION OF	2290	5603		5518	5538	COM-MENTION OF	2383
5329	3	4589	5320	COM-MENTION OF	2291	5603		5519	5539	COM-MENTION OF	2384
5329	4	5330	5321	COM-MENTION OF	2292	5603		552 -5539		DELETION	2385
5329	3	5379	5320	COM-MENTION OF	2293	5604		550	552	COM-MENTION OF	2386
5329	3	5699	5320	COM-MENTION OF	2294	5604		5510	5530	COM-MENTION OF	2387
5329	4	5699	5322	COM-MENTION OF	2295	5604		5511	5531	COM-MENTION OF	2388
5329	4	7845	5320	COM-MENTION OF	2296	5604		5512	5532	COM-MENTION OF	2389
5330		0970	095	COM-A DUE TO S	2297	5604		5513	5533	COM-MENTION OF	2390
5330		0979	095	COM-A DUE TO S	2298	5604		5518	5538	COM-MENTION OF	2391
5330		5329	5321	COM-MENTION OF	2299	5604		5519	5539	COM-MENTION OF	2392
5339	4	5699	5340	COM-MENTION OF	2300	5604		552 -5539		DELETION	2393
5340		5341	5342	COM-MENTION OF	2301	5609		550	552	COM-MENTION OF	2394
5341		0970	095	COM-A DUE TO S	2302	5609		5510	5530	COM-MENTION OF	2395
5341		0979	095	COM-A DUE TO S	2303	5609		5511	5531	COM-MENTION OF	2396
5341	3	4589	5340	COM-MENTION OF	2304	5609		5512	5532	COM-MENTION OF	2397
5341	3	4589	5342	COM-MENTION OF	2305	5609		5513	5533	COM-MENTION OF	2398
5341		5340	5342	COM-MENTION OF	2306	5609		5518	5538	COM-MENTION OF	2399
5341	3	5699	5342	COM-MENTION OF	2307	5609		5519	5539	COM-MENTION OF	2400
5349	3	4589	5340	COM-MENTION OF	2308	5609		552 -5539		DELETION	2401
5349	3	5699	5340	COM-MENTION OF	2309	5609		568	5604	COM-MENTION OF	2402
5349	4	5699	5342	COM-MENTION OF	2310	5609	1	5749	5603	COM-MENTION OF	2403
5349	4	7845	5340	COM-MENTION OF	2311	561		0119	014	COM-A DUE TO S	2404
535	1	0119	0179	COM-A DUE TO S	2312	561		470	473	COM-MENTION OF	2405
5379		0970	095	COM-A DUE TO S	2313	566		0119	014	COM-A DUE TO S	2406
5379		0979	095	COM-A DUE TO S	2314	5670		0119	014	COM-A DUE TO S	2407
5379	4	5319	5319	COM-MENTION OF	2315	5670		0970	095	COM-A DUE TO S	2408
5379	4	5321	5322	COM-MENTION OF	2316	5670		0979	095	COM-A DUE TO S	2409
5379	3	5329	5320	COM-MENTION OF	2317	5670	4	0989	0988	COM-A DUE TO S	2410
5400		0119	014	COM-A DUE TO S	2318	5670		5400		DELETION	2411
5409		0119	014	COM-A DUE TO S	2319	5670		5409-541	5400	COM-MENTION OF	2412
5409		5400		DELETION	2320	5670		6314	6310	COM-MENTION OF	2413
5409		567	5400	COM-MENTION OF	2321	5670		6315	6311	COM-MENTION OF	2414
541		0119	014	COM-A DUE TO S	2322	5670		6316	6312	COM-MENTION OF	2415
541		540		DELETION	2323	5670		6319	6313	COM-MENTION OF	2416
541		567	5400	COM-MENTION OF	2324	5670		6401	6402	COM-MENTION OF	2417
542		0119	014	COM-A DUE TO S	2325	5670		6409	6400	COM-MENTION OF	2418

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

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ANCHOR CODE (A)	AMB CODE (S)	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB CODE (S)	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
5670		6411	6412	COM-MENTION OF	2419	5730		3031	5710	COM-A DUE TO S	2512
5670		6419	6410	COM-MENTION OF	2420	5730		3032	5710	COM-A DUE TO S	2513
5670		6421	6422	COM-MENTION OF	2421	5730		3039	5710	COM-A DUE TO S	2514
5670		6429	6420	COM-MENTION OF	2422	5739	1	0119	014	COM-A DUE TO S	2515
5670		6431	6432	COM-MENTION OF	2423	5739		0970	095	COM-A DUE TO S	2516
5670		6439	6430	COM-MENTION OF	2424	5739		0979	095	COM-A DUE TO S	2517
5670		6441	6442	COM-MENTION OF	2425	5739	1	3032	5710	COM-A DUE TO S	2518
5670		6449	6440	COM-MENTION OF	2426	5739	1	3039	5710	COM-A DUE TO S	2519
5670		6451	6452	COM-MENTION OF	2427	5739	4	650	6779	COM-MENTION OF	2520
5670		6459	6450	COM-MENTION OF	2428	5749	1	5609	5603	COM-MENTION OF	2521
5679		0119	014	COM-A DUE TO S	2429	5749	1	575	5740	COM-MENTION OF	2522
5679		0970	095	COM-A DUE TO S	2430	5749	5	575	5741	COM-MENTION OF	2523
5679		0979	095	COM-A DUE TO S	2431	575		5740-5741		DELETION	2524
5679	4	0989	0988	COM-A DUE TO S	2432	575	1	5749	5740	COM-MENTION OF	2525
5679		5400		DELETION	2433	575	5	5749	5741	COM-MENTION OF	2526
5679		5409-541	5400	COM-MENTION OF	2434	5760		5749		DELETION	2527
5679		5670		DELETION	2435	5761		5749		DELETION	2528
5679		6314	6310	COM-MENTION OF	2436	5769		0970	095	COM-A DUE TO S	2529
5679		6315	6311	COM-MENTION OF	2437	5769		0979	095	COM-A DUE TO S	2530
5679		6316	6312	COM-MENTION OF	2438	5769		5749		DELETION	2531
5679		6319	6313	COM-MENTION OF	2439	5770		0970	095	COM-A DUE TO S	2532
5679		6401	6402	COM-MENTION OF	2440	5770		0979	095	COM-A DUE TO S	2533
5679		6409	6400	COM-MENTION OF	2441	580		0970	095	COM-A DUE TO S	2534
5679		6411	6412	COM-MENTION OF	2442	580		0979	095	COM-A DUE TO S	2535
5679		6419	6410	COM-MENTION OF	2443	580	3	0989	0981	COM-A DUE TO S	2536
5679		6421	6422	COM-MENTION OF	2444	580	5	0989	0980	COM-A DUE TO S	2537
5679		6429	6420	COM-MENTION OF	2445	580		4000	4003	COM-MENTION OF	2538
5679		6431	6432	COM-MENTION OF	2446	580		4001-4002	4009	COM-MENTION OF	2539
5679		6439	6430	COM-MENTION OF	2447	580		4003		DELETION	2540
5679		6441	6442	COM-MENTION OF	2448	580		6400	6402	COM-MENTION OF	2541
5679		6449	6440	COM-MENTION OF	2449	580		6409	6401	COM-MENTION OF	2542
5679		6451	6452	COM-MENTION OF	2450	580		6410	6412	COM-MENTION OF	2543
5679		6459	6450	COM-MENTION OF	2451	580		6419	6411	COM-MENTION OF	2544
568		5602		DELETION	2452	580		6430	6432	COM-MENTION OF	2545
568		5604		DELETION	2453	580		6439	6431	COM-MENTION OF	2546
568		5609	5604	COM-MENTION OF	2454	580		6440	6442	COM-MENTION OF	2547
5690	1	0119	014	COM-A DUE TO S	2455	580		6449	6441	COM-MENTION OF	2548
5690		0989	0988	COM-A DUE TO S	2456	580		6450	6452	COM-MENTION OF	2549
5691	1	0119	014	COM-A DUE TO S	2457	580		6459	6451	COM-MENTION OF	2550
5692	1	0119	014	COM-A DUE TO S	2458	580	4	6954	7341	COM-A DUE TO S	2551
5692		0970	095	COM-A DUE TO S	2459	581		0970	095	COM-A DUE TO S	2552
5692		0979	095	COM-A DUE TO S	2460	581		0979	095	COM-A DUE TO S	2553
5692	4	0989	0988	COM-A DUE TO S	2461	581		4000	4003	COM-MENTION OF	2554
5693	1	0119	014	COM-A DUE TO S	2462	581		4001-4002	4009	COM-MENTION OF	2555
5694	1	0119	014	COM-A DUE TO S	2463	581		4003		DELETION	2556
5694		0970	095	COM-A DUE TO S	2464	581		6400	6402	COM-MENTION OF	2557
5694		0979	095	COM-A DUE TO S	2465	581		6409	6401	COM-MENTION OF	2558
5699	1	0119	014	COM-A DUE TO S	2466	581		6410	6412	COM-MENTION OF	2559
5699		0970	095	COM-A DUE TO S	2467	581		6419	6411	COM-MENTION OF	2560
5699		0979	095	COM-A DUE TO S	2468	581		6430	6432	COM-MENTION OF	2561
5699	3	4442		DELETION	2469	581		6439	6431	COM-MENTION OF	2562
5699	4	5311	5312	COM-MENTION OF	2470	581		6440	6442	COM-MENTION OF	2563
5699	4	5319	5310	COM-MENTION OF	2471	581		6449	6441	COM-MENTION OF	2564
5699	4	5321	5322	COM-MENTION OF	2472	581		6450	6452	COM-MENTION OF	2565
5699	3	5329	5320	COM-MENTION OF	2473	581		6459	6451	COM-MENTION OF	2566
5699	4	5329	5322	COM-MENTION OF	2474	581	4	6954	7341	COM-A DUE TO S	2567
5699	4	5339	5340	COM-MENTION OF	2475	582		0970	095	COM-A DUE TO S	2568
5699	3	5341	5342	COM-MENTION OF	2476	582		0979	095	COM-A DUE TO S	2569
5699	3	5349	5340	COM-MENTION OF	2477	582	3	0989	0981	COM-A DUE TO S	2570
5699	3	5349	5342	COM-MENTION OF	2478	582	5	0989	0980	COM-A DUE TO S	2571
5699	3	550	552	COM-MENTION OF	2479	582		4000	4003	COM-MENTION OF	2572
5699	2	5510	5530	COM-MENTION OF	2480	582		4001	4009	COM-MENTION OF	2573
5699	2	5511	5531	COM-MENTION OF	2481	582		4002	4009	COM-MENTION OF	2574
5699	2	5512	5532	COM-MENTION OF	2482	582		4003		DELETION	2575
5699	2	5513	5533	COM-MENTION OF	2483	582	2	4400	403	MOD-A DUE TO S	2576
5699	2	5518	5538	COM-MENTION OF	2484	582	2	4401	403	MOD-A DUE TO S	2577
5699	2	5519	5539	COM-MENTION OF	2485	582	2	4402	403	MOD-A DUE TO S	2578
570		6400	6402	COM-MENTION OF	2486	582	2	4403	403	MOD-A DUE TO S	2579
570		6409	6401	COM-MENTION OF	2487	582	2	4409	403	MOD-A DUE TO S	2580
570		6410	6412	COM-MENTION OF	2488	582	4	6954	7341	COM-A DUE TO S	2581
570		6419	6411	COM-MENTION OF	2489	583	2	0119	0160	COM-A DUE TO S	2582
570		6430	6432	COM-MENTION OF	2490	583		0970	095	COM-A DUE TO S	2583
570		6439	6431	COM-MENTION OF	2491	583		0979	095	COM-A DUE TO S	2584
570		6440	6442	COM-MENTION OF	2492	583	3	0989	0981	COM-A DUE TO S	2585
570		6449	6441	COM-MENTION OF	2493	583	5	0989	0980	COM-A DUE TO S	2586
570		6450	6452	COM-MENTION OF	2494	583		4000	4003	COM-MENTION OF	2587
570		6459	6451	COM-MENTION OF	2495	583		4001	4009	COM-MENTION OF	2588
5718		2910	5710	MOD-MENTION OF	2496	583		4002	4009	COM-MENTION OF	2589
5718		303	5710	COM-MENTION OF	2497	583		4003		DELETION	2590
5718		5710		DELETION	2498	583	2	4400	403	MOD-A DUE TO S	2591
5719		0970	095	COM-A DUE TO S	2499	583	2	4401	403	MOD-A DUE TO S	2592
5719		0979	095	COM-A DUE TO S	2500	583	2	4402	403	MOD-A DUE TO S	2593
5719	4	2699	5718	MOD-A DUE TO S	2501	583	2	4403	403	MOD-A DUE TO S	2594
5719		2910	5710	MOD-MENTION OF	2502	583	2	4409	403	MOD-A DUE TO S	2595
5719		303	5710	COM-MENTION OF	2503	583		582		DELETION	2596
5719		5710		DELETION	2504	583		6400	6402	COM-MENTION OF	2597
5719		5718		DELETION	2505	583		6409	6401	COM-MENTION OF	2598
572		0069	0060	COM-MENTION OF	2506	583		6410	6412	COM-MENTION OF	2599
5730	4	0909	0900	COM-A DUE TO S	2507	583		6419	6411	COM-MENTION OF	2600
5730		0970	095	COM-A DUE TO S	2508	583		6430	6432	COM-MENTION OF	2601
5730		0979	095	COM-A DUE TO S	2509	583		6439	6431	COM-MENTION OF	2602
5730		0989	0988	COM-A DUE TO S	2510	583		6440	6442	COM-MENTION OF	2603
5730		3030	5710	COM-A DUE TO S	2511	583		6449	6441	COM-MENTION OF	2604

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
583		6450	6452	COM-MENTION OF	2605	5909		6439	6430	COM-MENTION OF	2698
583		6459	6451	COM-MENTION OF	2606	5909		6441	6442	COM-MENTION OF	2699
583	4	6954	7341	COM-A DUE TO S	2607	5909		6449	6440	COM-MENTION OF	2700
583	2	7826	581	COM-MENTION OF	2608	5909		6451	6452	COM-MENTION OF	2701
584	2	0119	0160	COM-A DUE TO S	2609	5909		6459	6450	COM-MENTION OF	2702
584		2703		DELETION	2610	591	1	0119	0160	COM-A DUE TO S	2703
584		4000	4003	COM-MENTION OF	2611	592	1	0119	0160	COM-A DUE TO S	2704
584		4001	4009	COM-MENTION OF	2612	5931		6314	6310	COM-MENTION OF	2705
584		4002	4009	COM-MENTION OF	2613	5931		6315	6311	COM-MENTION OF	2706
584		4003		DELETION	2614	5931		6316	6312	COM-MENTION OF	2707
584		401	403	COM-MENTION OF	2615	5931		6400	6402	COM-MENTION OF	2708
584		402	404	COM-MENTION OF	2616	5931		6409	6401	COM-MENTION OF	2709
584		403		DELETION	2617	5931		6410	6412	COM-MENTION OF	2710
584		4400	403	MOD-A DUE TO S	2618	5931		6419	6411	COM-MENTION OF	2711
584		4401	403	MOD-A DUE TO S	2619	5931		6430	6432	COM-MENTION OF	2712
584		4402	403	MOD-A DUE TO S	2620	5931		6439	6431	COM-MENTION OF	2713
584		4403	403	MOD-A DUE TO S	2621	5931		6440	6442	COM-MENTION OF	2714
584		4409	403	MOD-A DUE TO S	2622	5931		6449	6441	COM-MENTION OF	2715
584	1	5901	5900	COM-MENTION OF	2623	5931		6450	6452	COM-MENTION OF	2716
5900	1	0119	0160	COM-A DUE TO S	2624	5931		6459	6451	COM-MENTION OF	2717
5900		0970	095	COM-A DUE TO S	2625	5932		0970	095	COM-A DUE TO S	2718
5900		0979	095	COM-A DUE TO S	2626	5932		0979	095	COM-A DUE TO S	2719
5900	1	0989	0981	COM-A DUE TO S	2627	5932		4000	4003	COM-MENTION OF	2720
5900	5	0989	0980	COM-A DUE TO S	2628	5932		4001-4002	4009	COM-MENTION OF	2721
5900		592		DELETION	2629	5932		4003		DELETION	2722
5900		6314	6310	COM-MENTION OF	2630	5932	2	401	403	COM-MENTION OF	2723
5900		6315	6311	COM-MENTION OF	2631	5932	3	6400	6402	COM-MENTION OF	2724
5900		6316	6312	COM-MENTION OF	2632	5932	3	6409	6401	COM-MENTION OF	2725
5900		6319	6313	COM-MENTION OF	2633	5932	3	6410	6412	COM-MENTION OF	2726
5900		6401	6402	COM-MENTION OF	2634	5932	3	6419	6411	COM-MENTION OF	2727
5900		6409	6400	COM-MENTION OF	2635	5932	3	6430	6432	COM-MENTION OF	2728
5900		6411	6412	COM-MENTION OF	2636	5932	3	6439	6431	COM-MENTION OF	2729
5900		6419	6410	COM-MENTION OF	2637	5932	3	6440	6442	COM-MENTION OF	2730
5900		6421	6422	COM-MENTION OF	2638	5932	3	6449	6441	COM-MENTION OF	2731
5900		6429	6420	COM-MENTION OF	2639	5932	3	6450	6452	COM-MENTION OF	2732
5900		6431	6432	COM-MENTION OF	2640	5932	3	6459	6451	COM-MENTION OF	2733
5900		6439	6430	COM-MENTION OF	2641	5932	2	7826	581	COM-MENTION OF	2734
5900		6441	6442	COM-MENTION OF	2642	5935	1	0989	0981	COM-A DUE TO S	2735
5900		6449	6440	COM-MENTION OF	2643	5935	5	0989	0980	COM-A DUE TO S	2736
5900		6451	6452	COM-MENTION OF	2644	595		0119	0161	COM-A DUE TO S	2737
5900		6459	6450	COM-MENTION OF	2645	595		0970	095	COM-A DUE TO S	2738
5901	1	0119	0160	COM-A DUE TO S	2646	595		0979	095	COM-A DUE TO S	2739
5901		0970	095	COM-A DUE TO S	2647	595	1	0989	0981	COM-A DUE TO S	2740
5901		0979	095	COM-A DUE TO S	2648	595	5	0989	0980	COM-A DUE TO S	2741
5901	1	0989	0981	COM-A DUE TO S	2649	595		6314	6310	COM-MENTION OF	2742
5901	5	0989	0980	COM-A DUE TO S	2650	595		6315	6311	COM-MENTION OF	2743
5901	1	584	5900	COM-MENTION OF	2651	595		6316	6312	COM-MENTION OF	2744
5901		592		DELETION	2652	595		6319	6313	COM-MENTION OF	2745
5901		6314	6310	COM-MENTION OF	2653	595		6401	6402	COM-MENTION OF	2746
5901		6315	6311	COM-MENTION OF	2654	595		6409	6400	COM-MENTION OF	2747
5901		6316	6312	COM-MENTION OF	2655	595		6411	6412	COM-MENTION OF	2748
5901		6319	6313	COM-MENTION OF	2656	595		6419	6410	COM-MENTION OF	2749
5901		6401	6402	COM-MENTION OF	2657	595		6421	6422	COM-MENTION OF	2750
5901		6409	6400	COM-MENTION OF	2658	595		6429	6420	COM-MENTION OF	2751
5901		6411	6412	COM-MENTION OF	2659	595		6431	6432	COM-MENTION OF	2752
5901		6419	6410	COM-MENTION OF	2660	595		6439	6430	COM-MENTION OF	2753
5901		6421	6422	COM-MENTION OF	2661	595		6441	6442	COM-MENTION OF	2754
5901		6429	6420	COM-MENTION OF	2662	595		6449	6440	COM-MENTION OF	2755
5901		6431	6432	COM-MENTION OF	2663	595		6451	6452	COM-MENTION OF	2756
5901		6439	6430	COM-MENTION OF	2664	595		6459	6450	COM-MENTION OF	2757
5901		6441	6442	COM-MENTION OF	2665	5969		0970	095	COM-A DUE TO S	2758
5901		6449	6440	COM-MENTION OF	2666	5969		0979	095	COM-A DUE TO S	2759
5901		6451	6452	COM-MENTION OF	2667	597		0119	0161	COM-A DUE TO S	2760
5901		6459	6450	COM-MENTION OF	2668	597	1	0989	0981	COM-A DUE TO S	2761
5902	1	0119	0160	COM-A DUE TO S	2669	597	5	0989	0980	COM-A DUE TO S	2762
5902		6314	6310	COM-MENTION OF	2670	598		0119	0161	COM-A DUE TO S	2763
5902		6315	6311	COM-MENTION OF	2671	598		0970	095	COM-A DUE TO S	2764
5902		6316	6312	COM-MENTION OF	2672	598		0979	095	COM-A DUE TO S	2765
5902		6319	6313	COM-MENTION OF	2673	598	4	0989	0981	COM-A DUE TO S	2766
5902		6401	6402	COM-MENTION OF	2674	5990	1	0119	0161	COM-A DUE TO S	2767
5902		6409	6400	COM-MENTION OF	2675	5990		0970	095	COM-A DUE TO S	2768
5902		6411	6412	COM-MENTION OF	2676	5990		0979	095	COM-A DUE TO S	2769
5902		6419	6410	COM-MENTION OF	2677	5990	1	0989	0981	COM-A DUE TO S	2770
5902		6421	6422	COM-MENTION OF	2678	5990	5	0989	0980	COM-A DUE TO S	2771
5902		6429	6420	COM-MENTION OF	2679	5990	4	6314	6310	COM-MENTION OF	2772
5902		6431	6432	COM-MENTION OF	2680	5990	4	6315	6311	COM-MENTION OF	2773
5902		6439	6430	COM-MENTION OF	2681	5990	4	6316	6312	COM-MENTION OF	2774
5902		6441	6442	COM-MENTION OF	2682	5990	4	6319	6313	COM-MENTION OF	2775
5902		6449	6440	COM-MENTION OF	2683	5990	4	6401	6402	COM-MENTION OF	2776
5902		6451	6452	COM-MENTION OF	2684	5990	4	6409	6400	COM-MENTION OF	2777
5902		6459	6450	COM-MENTION OF	2685	5990	4	6411	6412	COM-MENTION OF	2778
5909	1	0119	0160	COM-A DUE TO S	2686	5990	4	6419	6410	COM-MENTION OF	2779
5909		6314	6310	COM-MENTION OF	2687	5990	4	6421	6422	COM-MENTION OF	2780
5909		6315	6311	COM-MENTION OF	2688	5990	4	6429	6420	COM-MENTION OF	2781
5909		6316	6312	COM-MENTION OF	2689	5990	4	6431	6432	COM-MENTION OF	2782
5909		6319	6313	COM-MENTION OF	2690	5990	4	6439	6430	COM-MENTION OF	2783
5909		6401	6402	COM-MENTION OF	2691	5990	4	6441	6442	COM-MENTION OF	2784
5909		6409	6400	COM-MENTION OF	2692	5990	4	6449	6440	COM-MENTION OF	2785
5909		6411	6412	COM-MENTION OF	2693	5990	4	6451	6452	COM-MENTION OF	2786
5909		6419	6410	COM-MENTION OF	2694	5990	4	6459	6450	COM-MENTION OF	2787
5909		6421	6422	COM-MENTION OF	2695	5991	1	0119	0161	COM-A DUE TO S	2788
5909		6429	6420	COM-MENTION OF	2696	5991		0970	095	COM-A DUE TO S	2789
5909		6431	6432	COM-MENTION OF	2697	5991		0979	095	COM-A DUE TO S	2790

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
5992		0970	095	COM-A DUE TO S	2791	614		6451	6452	COM-MENTION OF	2884
5992		0979	095	COM-A DUE TO S	2792	614		6459	6450	COM-MENTION OF	2885
5999	1	0119	0161	COM-A DUE TO S	2793	6150	1	0119	0162	COM-A DUE TO S	2886
5999		0970	095	COM-A DUE TO S	2794	6151	1	0119	0162	COM-A DUE TO S	2887
5999		0979	095	COM-A DUE TO S	2795	6152	1	0119	0162	COM-A DUE TO S	2888
5999	1	0989	0981	COM-A DUE TO S	2796	6159	1	0119	0162	COM-A DUE TO S	2889
5999	5	0989	0980	COM-A DUE TO S	2797	6159		0970	095	COM-A DUE TO S	2890
601		0119	0162	COM-A DUE TO S	2798	6159		0979	095	COM-A DUE TO S	2891
601	1	0989	0981	COM-A DUE TO S	2799	6159	1	0989	0981	COM-A DUE TO S	2892
601	5	0989	0980	COM-A DUE TO S	2800	6159	5	0989	0980	COM-A DUE TO S	2893
602		0970	095	COM-A DUE TO S	2801	6160	1	0119	0162	COM-A DUE TO S	2894
602		0979	095	COM-A DUE TO S	2802	6160		6314	6310	COM-MENTION OF	2895
604		0119	0162	COM-A DUE TO S	2803	6160		6315	6311	COM-MENTION OF	2896
604		0970	095	COM-A DUE TO S	2804	6160		6316	6312	COM-MENTION OF	2897
604		0979	095	COM-A DUE TO S	2805	6160		6319	6313	COM-MENTION OF	2898
604	1	0989	0981	COM-A DUE TO S	2806	6160		6401	6402	COM-MENTION OF	2899
604	5	0989	0980	COM-A DUE TO S	2807	6160		6409	6400	COM-MENTION OF	2900
6073	1	0989	0981	COM-A DUE TO S	2808	6160		6411	6412	COM-MENTION OF	2901
6073	5	0989	0980	COM-A DUE TO S	2809	6160		6419	6410	COM-MENTION OF	2902
6074	1	0119	0162	COM-A DUE TO S	2810	6160		6421	6422	COM-MENTION OF	2903
6074	1	0989	0981	COM-A DUE TO S	2811	6160		6429	6420	COM-MENTION OF	2904
6074	5	0989	0980	COM-A DUE TO S	2812	6160		6431	6432	COM-MENTION OF	2905
6075	1	0119	0162	COM-A DUE TO S	2813	6160		6439	6430	COM-MENTION OF	2906
6075	1	0989	0981	COM-A DUE TO S	2814	6160		6441	6442	COM-MENTION OF	2907
6075	5	0989	0980	COM-A DUE TO S	2815	6160		6449	6440	COM-MENTION OF	2908
6079		0970	095	COM-A DUE TO S	2816	6160		6451	6452	COM-MENTION OF	2909
6079		0979	095	COM-A DUE TO S	2817	6160		6459	6450	COM-MENTION OF	2910
6079	1	0989	0981	COM-A DUE TO S	2818	6161	1	0119	0162	COM-A DUE TO S	2911
6079	5	0989	0980	COM-A DUE TO S	2819	6162	1	0119	0162	COM-A DUE TO S	2912
6119		0970	095	COM-A DUE TO S	2820	6169	1	0119	0162	COM-A DUE TO S	2913
6119		0979	095	COM-A DUE TO S	2821	6200	1	0119	0162	COM-A DUE TO S	2914
612	1	0119	0162	COM-A DUE TO S	2822	6200		0970	095	COM-A DUE TO S	2915
612		0970	095	COM-A DUE TO S	2823	6200		0979	095	COM-A DUE TO S	2916
612		0979	095	COM-A DUE TO S	2824	6200	1	0989	0981	COM-A DUE TO S	2917
612	1	0989	0981	COM-A DUE TO S	2825	6200	5	0989	0980	COM-A DUE TO S	2918
612	5	0989	0980	COM-A DUE TO S	2826	6209	1	0119	0162	COM-A DUE TO S	2919
612		6314	6310	COM-MENTION OF	2827	6209		0970	095	COM-A DUE TO S	2920
612		6315	6311	COM-MENTION OF	2828	6209		0979	095	COM-A DUE TO S	2921
612		6316	6312	COM-MENTION OF	2829	6209	1	0989	0981	COM-A DUE TO S	2922
612		6319	6313	COM-MENTION OF	2830	6209	5	0989	0980	COM-A DUE TO S	2923
612		6401	6402	COM-MENTION OF	2831	6209		6314	6310	COM-MENTION OF	2924
612		6409	6400	COM-MENTION OF	2832	6209		6315	6311	COM-MENTION OF	2925
612		6411	6412	COM-MENTION OF	2833	6209		6316	6312	COM-MENTION OF	2926
612		6419	6410	COM-MENTION OF	2834	6209		6319	6313	COM-MENTION OF	2927
612		6421	6422	COM-MENTION OF	2835	6209		6401	6402	COM-MENTION OF	2928
612		6429	6420	COM-MENTION OF	2836	6209		6409	6400	COM-MENTION OF	2929
612		6431	6432	COM-MENTION OF	2837	6209		6411	6412	COM-MENTION OF	2930
612		6439	6430	COM-MENTION OF	2838	6209		6419	6410	COM-MENTION OF	2931
612		6441	6442	COM-MENTION OF	2839	6209		6421	6422	COM-MENTION OF	2932
612		6449	6440	COM-MENTION OF	2840	6209		6429	6420	COM-MENTION OF	2933
612		6451	6452	COM-MENTION OF	2841	6209		6431	6432	COM-MENTION OF	2934
612		6459	6450	COM-MENTION OF	2842	6209		6439	6430	COM-MENTION OF	2935
613	1	0119	0162	COM-A DUE TO S	2843	6209		6441	6442	COM-MENTION OF	2936
613		0970	095	COM-A DUE TO S	2844	6209		6449	6440	COM-MENTION OF	2937
613		0979	095	COM-A DUE TO S	2845	6209		6451	6452	COM-MENTION OF	2938
613	1	0989	0981	COM-A DUE TO S	2846	6209		6459	6450	COM-MENTION OF	2939
613	5	0989	0980	COM-A DUE TO S	2847	6210	1	0119	0162	COM-A DUE TO S	2940
613		6314	6310	COM-MENTION OF	2848	6211	1	0119	0162	COM-A DUE TO S	2941
613		6315	6311	COM-MENTION OF	2849	6212	1	0119	0162	COM-A DUE TO S	2942
613		6316	6312	COM-MENTION OF	2850	6213	1	0119	0162	COM-A DUE TO S	2943
613		6319	6313	COM-MENTION OF	2851	6214	1	0119	0162	COM-A DUE TO S	2944
613		6401	6402	COM-MENTION OF	2852	6215	1	0119	0162	COM-A DUE TO S	2945
613		6409	6400	COM-MENTION OF	2853	6216	1	0119	0162	COM-A DUE TO S	2946
613		6411	6412	COM-MENTION OF	2854	6216	4	627	6216	COM-A DUE TO S	2947
613		6419	6410	COM-MENTION OF	2855	6219	1	0119	0162	COM-A DUE TO S	2948
613		6421	6422	COM-MENTION OF	2856	6219		0970	095	COM-A DUE TO S	2949
613		6429	6420	COM-MENTION OF	2857	6219		0979	095	COM-A DUE TO S	2950
613		6431	6432	COM-MENTION OF	2858	6220	1	0119	0162	COM-A DUE TO S	2951
613		6439	6430	COM-MENTION OF	2859	6220	1	0989	0981	COM-A DUE TO S	2952
613		6441	6442	COM-MENTION OF	2860	6220	5	0989	0980	COM-A DUE TO S	2953
613		6449	6440	COM-MENTION OF	2861	6220		6314	6310	COM-MENTION OF	2954
613		6451	6452	COM-MENTION OF	2862	6220		6315	6311	COM-MENTION OF	2955
613		6459	6450	COM-MENTION OF	2863	6220		6316	6312	COM-MENTION OF	2956
614	1	0119	0162	COM-A DUE TO S	2864	6220		6319	6313	COM-MENTION OF	2957
614		0970	095	COM-A DUE TO S	2865	6220		6401	6402	COM-MENTION OF	2958
614		0979	095	COM-A DUE TO S	2866	6220		6409	6400	COM-MENTION OF	2959
614	1	0989	0981	COM-A DUE TO S	2867	6220		6411	6412	COM-MENTION OF	2960
614	5	0989	0980	COM-A DUE TO S	2868	6220		6419	6410	COM-MENTION OF	2961
614		612 -613		DELETION	2869	6220		6421	6422	COM-MENTION OF	2962
614		6314	6310	COM-MENTION OF	2870	6220		6429	6420	COM-MENTION OF	2963
614		6315	6311	COM-MENTION OF	2871	6220		6431	6432	COM-MENTION OF	2964
614		6316	6312	COM-MENTION OF	2872	6220		6439	6430	COM-MENTION OF	2965
614		6319	6313	COM-MENTION OF	2873	6220		6441	6442	COM-MENTION OF	2966
614		6401	6402	COM-MENTION OF	2874	6220		6449	6440	COM-MENTION OF	2967
614		6409	6400	COM-MENTION OF	2875	6220		6451	6452	COM-MENTION OF	2968
614		6411	6412	COM-MENTION OF	2876	6220		6459	6450	COM-MENTION OF	2969
614		6419	6410	COM-MENTION OF	2877	6221	1	0119	0162	COM-A DUE TO S	2970
614		6421	6422	COM-MENTION OF	2878	6221	4	0970	0910	COM-A DUE TO S	2971
614		6429	6420	COM-MENTION OF	2879	6221	5	0970	095	COM-A DUE TO S	2972
614		6431	6432	COM-MENTION OF	2880	6221	3	0979	0910	COM-A DUE TO S	2973
614		6439	6430	COM-MENTION OF	2881	6221	5	0979	095	COM-A DUE TO S	2974
614		6441	6442	COM-MENTION OF	2882	6221	1	0989	0981	COM-A DUE TO S	2975
614		6449	6440	COM-MENTION OF	2883	6221	5	0989	0980	COM-A DUE TO S	2976

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
6221		6314	6310	COM-MENTION OF	2977	6319		037 -0390	6313	COM-MENTION OF	3070
6221		6315	6311	COM-MENTION OF	2978	6319		444	6313	COM-MENTION OF	3071
6221		6316	6312	COM-MENTION OF	2979	6319		450 -4519	6313	COM-MENTION OF	3072
6221		6319	6313	COM-MENTION OF	2980	6319		453	6313	COM-MENTION OF	3073
6221		6401	6402	COM-MENTION OF	2981	6319		567	6313	COM-MENTION OF	3074
6221		6409	6400	COM-MENTION OF	2982	6319		5900	6313	COM-MENTION OF	3075
6221		6411	6412	COM-MENTION OF	2983	6319		5901-5909	6313	COM-MENTION OF	3076
6221		6419	6410	COM-MENTION OF	2984	6319		595	6313	COM-MENTION OF	3077
6221		6421	6422	COM-MENTION OF	2985	6319	4	5990	6313	COM-MENTION OF	3078
6221		6429	6420	COM-MENTION OF	2986	6319		612 -614	6313	COM-MENTION OF	3079
6221		6431	6432	COM-MENTION OF	2987	6319		6160	6313	COM-MENTION OF	3080
6221		6439	6430	COM-MENTION OF	2988	6319		6209	6313	COM-MENTION OF	3081
6221		6441	6442	COM-MENTION OF	2989	6319		622	6313	COM-MENTION OF	3082
6221		6449	6440	COM-MENTION OF	2990	6319		6294	6313	COM-MENTION OF	3083
6221		6451	6452	COM-MENTION OF	2991	6329	1	2869	6324	COM-A DUE TO S	3084
6221		6459	6450	COM-MENTION OF	2992	6349	4	280	6331	COM-MENTION OF	3085
6249		6240-6241		DELETION	2993	6349	4	281	6330	COM-MENTION OF	3086
6294		612 -614		DELETION	2994	6349	4	2859	6339	COM-MENTION OF	3087
6294		6160		DELETION	2995	6379		638 -6399		DELETION	3088
6294		620		DELETION	2996	6389		6380		DELETION	3089
6294		622		DELETION	2997	6400	4	401	6402	COM-MENTION OF	3090
6294		6314	6310	COM-MENTION OF	2998	6400		570	6402	COM-MENTION OF	3091
6294		6315	6311	COM-MENTION OF	2999	6400		580	6402	COM-MENTION OF	3092
6294		6316	6312	COM-MENTION OF	3000	6400		581	6402	COM-MENTION OF	3093
6294		6319	6313	COM-MENTION OF	3001	6400		583	6402	COM-MENTION OF	3094
6294		6401	6402	COM-MENTION OF	3002	6400		5931	6402	COM-MENTION OF	3095
6294		6409	6400	COM-MENTION OF	3003	6400	3	5932	6402	COM-MENTION OF	3096
6294		6411	6412	COM-MENTION OF	3004	6400		6401	6402	COM-MENTION OF	3097
6294		6419	6410	COM-MENTION OF	3005	6400		7890	6402	COM-MENTION OF	3098
6294		6421	6422	COM-MENTION OF	3006	6400		792	6402	COM-MENTION OF	3099
6294		6429	6420	COM-MENTION OF	3007	6401		035	6402	COM-MENTION OF	3100
6294		6431	6432	COM-MENTION OF	3008	6401		037 -0390	6402	COM-MENTION OF	3101
6294		6439	6430	COM-MENTION OF	3009	6401		444	6402	COM-MENTION OF	3102
6294		6441	6442	COM-MENTION OF	3010	6401		450 -4519	6402	COM-MENTION OF	3103
6294		6449	6440	COM-MENTION OF	3011	6401	2	453	6402	COM-MENTION OF	3104
6294		6451	6452	COM-MENTION OF	3012	6401		567	6402	COM-MENTION OF	3105
6294		6459	6450	COM-MENTION OF	3013	6401		5900	6402	COM-MENTION OF	3106
6297	1	0989	0981	COM-A DUE TO S	3014	6401		5901-5909	6402	COM-MENTION OF	3107
6297	5	0989	0980	COM-A DUE TO S	3015	6401		595	6402	COM-MENTION OF	3108
6299		0970	095	COM-A DUE TO S	3016	6401	4	5990	6402	COM-MENTION OF	3109
6299		0979	095	COM-A DUE TO S	3017	6401		612 -614	6402	COM-MENTION OF	3110
6299	1	0989	0981	COM-A DUE TO S	3018	6401		6160	6402	COM-MENTION OF	3111
6299	5	0989	0980	COM-A DUE TO S	3019	6401		6209	6402	COM-MENTION OF	3112
6313	4	6310-6312		DELETION	3020	6401		622	6402	COM-MENTION OF	3113
6314		035	6310	COM-MENTION OF	3021	6401		6294	6402	COM-MENTION OF	3114
6314		037 -0390	6310	COM-MENTION OF	3022	6401		6400	6402	COM-MENTION OF	3115
6314		444	6310	COM-MENTION OF	3023	6409		035	6400	COM-MENTION OF	3116
6314		450 -4519	6310	COM-MENTION OF	3024	6409		037 -0390	6400	COM-MENTION OF	3117
6314		453	6310	COM-MENTION OF	3025	6409	4	355	6401	COM-MENTION OF	3118
6314		567	6310	COM-MENTION OF	3026	6409	4	401	6401	COM-MENTION OF	3119
6314		5900	6310	COM-MENTION OF	3027	6409	1	444	6400	COM-MENTION OF	3120
6314		5901-5909	6310	COM-MENTION OF	3028	6409	3	450 -4519	6400	COM-MENTION OF	3121
6314		5931	6310	COM-MENTION OF	3029	6409	2	453	6400	COM-MENTION OF	3122
6314		595	6310	COM-MENTION OF	3030	6409		567	6400	COM-MENTION OF	3123
6314	4	5990	6310	COM-MENTION OF	3031	6409		570	6401	COM-MENTION OF	3124
6314		612 -614	6310	COM-MENTION OF	3032	6409		580	6401	COM-MENTION OF	3125
6314		6160	6310	COM-MENTION OF	3033	6409		581	6401	COM-MENTION OF	3126
6314		6209	6310	COM-MENTION OF	3034	6409		583	6401	COM-MENTION OF	3127
6314		622	6310	COM-MENTION OF	3035	6409		5900	6400	COM-MENTION OF	3128
6314		6294	6310	COM-MENTION OF	3036	6409		5901-5909	6400	COM-MENTION OF	3129
6315		035	6311	COM-MENTION OF	3037	6409		5931	6401	COM-MENTION OF	3130
6315		037 -0390	6311	COM-MENTION OF	3038	6409	3	5932	6401	COM-MENTION OF	3131
6315		444	6311	COM-MENTION OF	3039	6409		595	6400	COM-MENTION OF	3132
6315		450 -4519	6311	COM-MENTION OF	3040	6409	4	5990	6400	COM-MENTION OF	3133
6315		453	6311	COM-MENTION OF	3041	6409		612 -614	6400	COM-MENTION OF	3134
6315		567	6311	COM-MENTION OF	3042	6409		6160	6400	COM-MENTION OF	3135
6315		5900	6311	COM-MENTION OF	3043	6409		6209	6400	COM-MENTION OF	3136
6315		5901-5909	6311	COM-MENTION OF	3044	6409		622	6400	COM-MENTION OF	3137
6315		5931	6311	COM-MENTION OF	3045	6409		6294	6400	COM-MENTION OF	3138
6315		595	6311	COM-MENTION OF	3046	6409		6400-6402		DELETION	3139
6315	4	5990	6311	COM-MENTION OF	3047	6409		7890	6401	COM-MENTION OF	3140
6315		612 -614	6311	COM-MENTION OF	3048	6409		792	6401	COM-MENTION OF	3141
6315		6160	6311	COM-MENTION OF	3049	6410	4	355	6412	COM-MENTION OF	3142
6315		6209	6311	COM-MENTION OF	3050	6410	4	401	6412	COM-MENTION OF	3143
6315		622	6311	COM-MENTION OF	3051	6410		570	6412	COM-MENTION OF	3144
6315		6294	6311	COM-MENTION OF	3052	6410		580	6412	COM-MENTION OF	3145
6316		035	6312	COM-MENTION OF	3053	6410		581	6412	COM-MENTION OF	3146
6316		037 -0390	6312	COM-MENTION OF	3054	6410		583	6412	COM-MENTION OF	3147
6316		444	6312	COM-MENTION OF	3055	6410		5931	6412	COM-MENTION OF	3148
6316		450 -4519	6312	COM-MENTION OF	3056	6410	3	5932	6412	COM-MENTION OF	3149
6316		453	6312	COM-MENTION OF	3057	6410		6411	6412	COM-MENTION OF	3150
6316		567	6312	COM-MENTION OF	3058	6410		7890	6412	COM-MENTION OF	3151
6316		5900	6312	COM-MENTION OF	3059	6410		792	6412	COM-MENTION OF	3152
6316		5901-5909	6312	COM-MENTION OF	3060	6411		035	6412	COM-MENTION OF	3153
6316		5931	6312	COM-MENTION OF	3061	6411		037 -0390	6412	COM-MENTION OF	3154
6316		595	6312	COM-MENTION OF	3062	6411		444	6412	COM-MENTION OF	3155
6316	4	5990	6312	COM-MENTION OF	3063	6411		450 -4519	6412	COM-MENTION OF	3156
6316		612 -614	6312	COM-MENTION OF	3064	6411	2	453	6412	COM-MENTION OF	3157
6316		6160	6312	COM-MENTION OF	3065	6411		567	6412	COM-MENTION OF	3158
6316		6209	6312	COM-MENTION OF	3066	6411		5900	6412	COM-MENTION OF	3159
6316		622	6312	COM-MENTION OF	3067	6411		5901-5909	6412	COM-MENTION OF	3160
6316		6294	6312	COM-MENTION OF	3068	6411		595	6412	COM-MENTION OF	3161
6319		035	6313	COM-MENTION OF	3069	6411	4	5990	6412	COM-MENTION OF	3162

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AHB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AHB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.
6411		612 -614	6412	COM-MENTION OF	3163	6439		035	6430	COM-MENTION OF	3256
6411		6160	6412	COM-MENTION OF	3164	6439		037 -0390	6430	COM-MENTION OF	3257
6411		6209	6412	COM-MENTION OF	3165	6439	4	355	6431	COM-MENTION OF	3258
6411		622	6412	COM-MENTION OF	3166	6439	4	401	6431	COM-MENTION OF	3259
6411		6294	6412	COM-MENTION OF	3167	6439	1	444	6430	COM-MENTION OF	3260
6411		6410	6412	COM-MENTION OF	3168	6439	3	450 -4519	6430	COM-MENTION OF	3261
6419		035	6410	COM-MENTION OF	3169	6439	2	453	6430	COM-MENTION OF	3262
6419		037 -0390	6410	COM-MENTION OF	3170	6439		567	6430	COM-MENTION OF	3263
6419	4	355	6411	COM-MENTION OF	3171	6439		570	6431	COM-MENTION OF	3264
6419	4	401	6411	COM-MENTION OF	3172	6439		580	6431	COM-MENTION OF	3265
6419	1	444	6410	COM-MENTION OF	3173	6439		581	6431	COM-MENTION OF	3266
6419	3	450 -4519	6410	COM-MENTION OF	3174	6439		583	6431	COM-MENTION OF	3267
6419	2	453	6410	COM-MENTION OF	3175	6439		5900	6430	COM-MENTION OF	3268
6419		567	6410	COM-MENTION OF	3176	6439		5901-5909	6430	COM-MENTION OF	3269
6419		570	6411	COM-MENTION OF	3177	6439		5931	6431	COM-MENTION OF	3270
6419		580	6411	COM-MENTION OF	3178	6439	3	5932	6431	COM-MENTION OF	3271
6419		581	6411	COM-MENTION OF	3179	6439		595	6430	COM-MENTION OF	3272
6419		583	6411	COM-MENTION OF	3180	6439	4	5990	6430	COM-MENTION OF	3273
6419		5900	6410	COM-MENTION OF	3181	6439		612 -614	6430	COM-MENTION OF	3274
6419		5901-5909	6410	COM-MENTION OF	3182	6439		6160	6430	COM-MENTION OF	3275
6419		5931	6411	COM-MENTION OF	3183	6439		6209	6430	COM-MENTION OF	3276
6419	3	5932	6411	COM-MENTION OF	3184	6439		622	6430	COM-MENTION OF	3277
6419		595	6410	COM-MENTION OF	3185	6439		6294	6430	COM-MENTION OF	3278
6419	4	5990	6410	COM-MENTION OF	3186	6439		6430-6432	DELETION		3279
6419		612 -614	6410	COM-MENTION OF	3187	6439		7890	6431	COM-MENTION OF	3280
6419		6160	6410	COM-MENTION OF	3188	6439		792	6431	COM-MENTION OF	3281
6419		6209	6410	COM-MENTION OF	3189	6440	4	401	6442	COM-MENTION OF	3282
6419		622	6410	COM-MENTION OF	3190	6440		570	6442	COM-MENTION OF	3283
6419		6294	6410	COM-MENTION OF	3191	6440		580	6442	COM-MENTION OF	3284
6419		6410-6412	DELETION		3192	6440		581	6442	COM-MENTION OF	3285
6419		7890	6411	COM-MENTION OF	3193	6440		583	6442	COM-MENTION OF	3286
6419		792	6411	COM-MENTION OF	3194	6440		5931	6442	COM-MENTION OF	3287
6420		6421	6422	COM-MENTION OF	3195	6440	3	5932	6442	COM-MENTION OF	3288
6421		035	6422	COM-MENTION OF	3196	6440		6441	6442	COM-MENTION OF	3289
6421		037 -0390	6422	COM-MENTION OF	3197	6440		7890	6442	COM-MENTION OF	3290
6421		444	6422	COM-MENTION OF	3198	6440		792	6442	COM-MENTION OF	3291
6421		450 -4519	6422	COM-MENTION OF	3199	6441		035	6442	COM-MENTION OF	3292
6421	2	453	6412	COM-MENTION OF	3200	6441		037 -0390	6442	COM-MENTION OF	3293
6421	2	453	6422	COM-MENTION OF	3201	6441		444	6442	COM-MENTION OF	3294
6421		567	6422	COM-MENTION OF	3202	6441		450 -4519	6442	COM-MENTION OF	3295
6421		5900	6422	COM-MENTION OF	3203	6441	2	453	6442	COM-MENTION OF	3296
6421		5901-5909	6422	COM-MENTION OF	3204	6441		567	6442	COM-MENTION OF	3297
6421		595	6422	COM-MENTION OF	3205	6441		5900	6442	COM-MENTION OF	3298
6421	4	5990	6422	COM-MENTION OF	3206	6441		5901-5909	6442	COM-MENTION OF	3299
6421		612 -614	6422	COM-MENTION OF	3207	6441		595	6442	COM-MENTION OF	3300
6421		6160	6422	COM-MENTION OF	3208	6441	4	5990	6442	COM-MENTION OF	3301
6421		6209	6422	COM-MENTION OF	3209	6441		612 -614	6442	COM-MENTION OF	3302
6421		622	6422	COM-MENTION OF	3210	6441		6160	6442	COM-MENTION OF	3303
6421		6294	6422	COM-MENTION OF	3211	6441		6209	6442	COM-MENTION OF	3304
6421		6420	6422	COM-MENTION OF	3212	6441		622	6442	COM-MENTION OF	3305
6429		035	6420	COM-MENTION OF	3213	6441		6294	6442	COM-MENTION OF	3306
6429		037 -0390	6420	COM-MENTION OF	3214	6441		6440	6442	COM-MENTION OF	3307
6429	1	444	6420	COM-MENTION OF	3215	6449		035	6440	COM-MENTION OF	3308
6429	3	450 -4519	6420	COM-MENTION OF	3216	6449		037 -0390	6440	COM-MENTION OF	3309
6429	2	453	6410	COM-MENTION OF	3217	6449	4	355	6441	COM-MENTION OF	3310
6429	2	453	6420	COM-MENTION OF	3218	6449	4	401	6441	COM-MENTION OF	3311
6429		567	6420	COM-MENTION OF	3219	6449	1	444	6440	COM-MENTION OF	3312
6429		5900	6420	COM-MENTION OF	3220	6449	3	450 -4519	6440	COM-MENTION OF	3313
6429		5901-5909	6420	COM-MENTION OF	3221	6449	2	453	6440	COM-MENTION OF	3314
6429		595	6420	COM-MENTION OF	3222	6449		567	6440	COM-MENTION OF	3315
6429	4	5990	6420	COM-MENTION OF	3223	6449		570	6441	COM-MENTION OF	3316
6429		612 -614	6420	COM-MENTION OF	3224	6449		580	6441	COM-MENTION OF	3317
6429		6160	6420	COM-MENTION OF	3225	6449		581	6441	COM-MENTION OF	3318
6429		6209	6420	COM-MENTION OF	3226	6449		583	6441	COM-MENTION OF	3319
6429		622	6420	COM-MENTION OF	3227	6449		5900	6440	COM-MENTION OF	3320
6429		6294	6420	COM-MENTION OF	3228	6449		5901-5909	6440	COM-MENTION OF	3321
6429		6420-6423	DELETION		3229	6449		5931	6441	COM-MENTION OF	3322
6430	4	401	6432	COM-MENTION OF	3230	6449	3	5932	6441	COM-MENTION OF	3323
6430		570	6432	COM-MENTION OF	3231	6449		595	6440	COM-MENTION OF	3324
6430		580	6432	COM-MENTION OF	3232	6449	4	5990	6440	COM-MENTION OF	3325
6430		581	6432	COM-MENTION OF	3233	6449		612 -614	6440	COM-MENTION OF	3326
6430		583	6432	COM-MENTION OF	3234	6449		6160	6440	COM-MENTION OF	3327
6430		5931	6432	COM-MENTION OF	3235	6449		6209	6440	COM-MENTION OF	3328
6430	3	5932	6432	COM-MENTION OF	3236	6449		622	6440	COM-MENTION OF	3329
6430		6431	6432	COM-MENTION OF	3237	6449		6294	6440	COM-MENTION OF	3330
6430		7890	6432	COM-MENTION OF	3238	6449		640 -6442	DELETION		3331
6430		792	6432	COM-MENTION OF	3239	6449		7890	6441	COM-MENTION OF	3332
6431		035	6432	COM-MENTION OF	3240	6449		792	6441	COM-MENTION OF	3333
6431		037 -0390	6432	COM-MENTION OF	3241	6450	4	401	6452	COM-MENTION OF	3334
6431		444	6432	COM-MENTION OF	3242	6450	2	453	6452	COM-MENTION OF	3335
6431		450 -4519	6432	COM-MENTION OF	3243	6450		570	6452	COM-MENTION OF	3336
6431	2	453	6432	COM-MENTION OF	3244	6450		580	6452	COM-MENTION OF	3337
6431		567	6432	COM-MENTION OF	3245	6450		581	6452	COM-MENTION OF	3338
6431		5900	6432	COM-MENTION OF	3246	6450		583	6452	COM-MENTION OF	3339
6431		5901-5909	6432	COM-MENTION OF	3247	6450		5931	6452	COM-MENTION OF	3340
6431		595	6432	COM-MENTION OF	3248	6450	3	5932	6452	COM-MENTION OF	3341
6431	4	5990	6432	COM-MENTION OF	3249	6450		6451	6452	COM-MENTION OF	3342
6431		612 -614	6432	COM-MENTION OF	3250	6450		7890	6452	COM-MENTION OF	3343
6431		6160	6432	COM-MENTION OF	3251	6450		792	6452	COM-MENTION OF	3344
6431		6209	6432	COM-MENTION OF	3252	6451		035	6452	COM-MENTION OF	3345
6431		622	6432	COM-MENTION OF	3253	6451		037 -0390	6452	COM-MENTION OF	3346
6431		6294	6432	COM-MENTION OF	3254	6451		444	6452	COM-MENTION OF	3347
6431		6430	6432	COM-MENTION OF	3255	6451		450 -4519	6452	COM-MENTION OF	3348

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB CODE (S)	SUBANCHOR RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB CODE (S)	SUBANCHOR RECODE	TYPE	ENTRY NO.	
6451	453	6452	COM-MENTION OF	3349	7079	4	4589	5339	COM-MENTION OF	3442
6451	567	6452	COM-MENTION OF	3350	7079	1	7845	5339	COM-MENTION OF	3443
6451	5900	6452	COM-MENTION OF	3351	7079	1	7857	5339	COM-MENTION OF	3444
6451	5901-5909	6452	COM-MENTION OF	3352	7099		0970	095	COM-A DUE TO S	3445
6451	595	6452	COM-MENTION OF	3353	7099		0979	095	COM-A DUE TO S	3446
6451	4 5990	6452	COM-MENTION OF	3354	7099	4	0989	0988	COM-A DUE TO S	3447
6451	612 -614	6452	COM-MENTION OF	3355	7131		0970	095	COM-A DUE TO S	3448
6451	6160	6452	COM-MENTION OF	3356	7131		0979	095	COM-A DUE TO S	3449
6451	6209	6452	COM-MENTION OF	3357	7131	3	0989	0983	COM-A DUE TO S	3450
6451	622	6452	COM-MENTION OF	3358	715		0119	0159	COM-A DUE TO S	3451
6451	6294	6452	COM-MENTION OF	3359	715		0369	0368	COM-A DUE TO S	3452
6451	6450	6452	COM-MENTION OF	3360	715		0989	0983	COM-A DUE TO S	3453
6459	035	6450	COM-MENTION OF	3361	715		6961	6960	COM-A DUE TO S	3454
6459	037 -0390	6450	COM-MENTION OF	3362	715		710 -7149		DELETION	3455
6459	4 355	6451	COM-MENTION OF	3363	715		794	7130	COM-A DUE TO S	3456
6459	4 401	6451	COM-MENTION OF	3364	7179	3	0989	0983	COM-A DUE TO S	3457
6459	1 444	6450	COM-MENTION OF	3365	718		0119	0159	COM-A DUE TO S	3458
6459	4 450 -4519	6450	COM-MENTION OF	3366	718		0989	0983	COM-A DUE TO S	3459
6459	2 453	6450	COM-MENTION OF	3367	7200		0119	0159	COM-A DUE TO S	3460
6459	567	6450	COM-MENTION OF	3368	7200		0970	095	COM-A DUE TO S	3461
6459	570	6451	COM-MENTION OF	3369	7200		0979	095	COM-A DUE TO S	3462
6459	580	6451	COM-MENTION OF	3370	7201		0119	0159	COM-A DUE TO S	3463
6459	581	6451	COM-MENTION OF	3371	7201		0970	095	COM-A DUE TO S	3464
6459	583	6451	COM-MENTION OF	3372	7201		0979	095	COM-A DUE TO S	3465
6459	5900	6450	COM-MENTION OF	3373	7202		0119	0159	COM-A DUE TO S	3466
6459	5901-5909	6450	COM-MENTION OF	3374	7202		0970	095	COM-A DUE TO S	3467
6459	5931	6451	COM-MENTION OF	3375	7202		0979	095	COM-A DUE TO S	3468
6459	3 5932	6451	COM-MENTION OF	3376	7202		7200-7201		DELETION	3469
6459	595	6450	COM-MENTION OF	3377	7203		0119	0159	COM-A DUE TO S	3470
6459	4 5990	6450	COM-MENTION OF	3378	7203		0970	095	COM-A DUE TO S	3471
6459	612 -614	6450	COM-MENTION OF	3379	7203		0979	095	COM-A DUE TO S	3472
6459	6160	6450	COM-MENTION OF	3380	7203		0989	0988	COM-A DUE TO S	3473
6459	6209	6450	COM-MENTION OF	3381	7203		7200-7202		DELETION	3474
6459	622	6450	COM-MENTION OF	3382	7229	1	0119	0159	COM-A DUE TO S	3475
6459	6294	6450	COM-MENTION OF	3383	7229	4	0909	0900	COM-A DUE TO S	3476
6459	7890	6451	COM-MENTION OF	3384	7230		0970	095	COM-A DUE TO S	3477
6459	792	6451	COM-MENTION OF	3385	7230		0979	095	COM-A DUE TO S	3478
650	4 281	653	COM-MENTION OF	3386	7239	1	0119	0159	COM-A DUE TO S	3479
650	4 321	674	COM-MENTION OF	3387	7239	4	0909	0900	COM-A DUE TO S	3480
650	4 430 -4349	674	COM-MENTION OF	3388	7239		0970	095	COM-A DUE TO S	3481
650	4 436 -4389	674	COM-MENTION OF	3389	7239		0979	095	COM-A DUE TO S	3482
650	4 5739	6779	COM-MENTION OF	3390	7259		7250-7258		DELETION	3483
650	635 -6399		DELETION	3391	7279		7270-7278		DELETION	3484
650	651 -678		DELETION	3392	7289	4	0970	0949	COM-A DUE TO S	3485
6569	6560-6568		DELETION	3393	7289	4	0979	0949	COM-A DUE TO S	3486
6589	6580-6582		DELETION	3394	7290		0970	095	COM-A DUE TO S	3487
6619	4 281	653	COM-MENTION OF	3395	7290		0979	095	COM-A DUE TO S	3488
6619	651 -6618		DELETION	3396	7291		0970	095	COM-A DUE TO S	3489
6770	4 280	676	COM-MENTION OF	3397	7291		0979	095	COM-A DUE TO S	3490
6770	4 281	676	COM-MENTION OF	3398	7292		0970	095	COM-A DUE TO S	3491
6770	4 2859	676	COM-MENTION OF	3399	7292		0979	095	COM-A DUE TO S	3492
6779	4 280	676	COM-MENTION OF	3400	7293		0970	095	COM-A DUE TO S	3493
6779	4 281	676	COM-MENTION OF	3401	7293		0979	095	COM-A DUE TO S	3494
6779	4 2859	676	COM-MENTION OF	3402	7294		0970	095	COM-A DUE TO S	3495
6779	1 2871	675	COM-MENTION OF	3403	7294		0979	095	COM-A DUE TO S	3496
6779	4 4589	6772	COM-MENTION OF	3404	7295		0970	095	COM-A DUE TO S	3497
6800	6800-6806	6808	COM-MENTION OF	3405	7295		0979	095	COM-A DUE TO S	3498
6801	6800-6806	6808	COM-MENTION OF	3406	7296		0970	095	COM-A DUE TO S	3499
6802	6800-6804	6808	COM-MENTION OF	3407	7296		0979	095	COM-A DUE TO S	3500
6803	6800-6806	6808	COM-MENTION OF	3408	7297		0970	095	COM-A DUE TO S	3501
6804	6800-6806	6808	COM-MENTION OF	3409	7297		0979	095	COM-A DUE TO S	3502
6805	6800-6806	6808	COM-MENTION OF	3410	7298		0970	095	COM-A DUE TO S	3503
6806	6800-6806	6808	COM-MENTION OF	3411	7298		0979	095	COM-A DUE TO S	3504
6809	6800-6808		DELETION	3412	7299		0970	095	COM-A DUE TO S	3505
681	3 0119	0170	COM-A DUE TO S	3413	7299		0979	095	COM-A DUE TO S	3506
6820	3 0119	0170	COM-A DUE TO S	3414	7299	3	0989	0983	COM-A DUE TO S	3507
6821	3 0119	0170	COM-A DUE TO S	3415	7310	1	0119	0159	COM-A DUE TO S	3508
6822	3 0119	0170	COM-A DUE TO S	3416	7310	4	0909	0900	COM-A DUE TO S	3509
6823	3 0119	0170	COM-A DUE TO S	3417	7310		0970	095	COM-A DUE TO S	3510
6824	3 0119	0170	COM-A DUE TO S	3418	7310		0979	095	COM-A DUE TO S	3511
6825	3 0119	0170	COM-A DUE TO S	3419	7310	3	0989	0983	COM-A DUE TO S	3512
6829	3 0119	0170	COM-A DUE TO S	3420	7311	1	0119	0159	COM-A DUE TO S	3513
683	0119	0171	COM-A DUE TO S	3421	7311	4	0909	0900	COM-A DUE TO S	3514
6869	0970	095	COM-A DUE TO S	3422	7311		0970	095	COM-A DUE TO S	3515
6869	0979	095	COM-A DUE TO S	3423	7311		0979	095	COM-A DUE TO S	3516
694	4 0909	0900	COM-A DUE TO S	3424	7311	3	0989	0983	COM-A DUE TO S	3517
7011	0989	0988	COM-A DUE TO S	3425	7312	1	0119	0159	COM-A DUE TO S	3518
7012	0970	095	COM-A DUE TO S	3426	7312	4	0909	0900	COM-A DUE TO S	3519
7012	0979	095	COM-A DUE TO S	3427	7312		0970	095	COM-A DUE TO S	3520
702	0970	095	COM-A DUE TO S	3428	7312		0979	095	COM-A DUE TO S	3521
702	0979	095	COM-A DUE TO S	3429	7312	3	0989	0983	COM-A DUE TO S	3522
7039	1 2859	280	COM-MENTION OF	3430	7313	1	0119	0159	COM-A DUE TO S	3523
704	1 0989	0981	COM-A DUE TO S	3431	7313	4	0909	0900	COM-A DUE TO S	3524
704	5 0989	0980	COM-A DUE TO S	3432	7313		0970	095	COM-A DUE TO S	3525
7070	445		DELETION	3433	7313		0979	095	COM-A DUE TO S	3526
7071	445		DELETION	3434	7313	3	0989	0983	COM-A DUE TO S	3527
7071	4541-4549	4540	COM-MENTION OF	3435	7314	1	0119	0159	COM-A DUE TO S	3528
7079	0119	0170	COM-A DUE TO S	3436	7314	4	0909	0900	COM-A DUE TO S	3529
7079	0970	095	COM-A DUE TO S	3437	7314		0970	095	COM-A DUE TO S	3530
7079	0979	095	COM-A DUE TO S	3438	7314		0979	095	COM-A DUE TO S	3531
7079	3639	3630	COM-MENTION OF	3439	7314	3	0989	0983	COM-A DUE TO S	3532
7079	445		DELETION	3440	7315	1	0119	0159	COM-A DUE TO S	3533
7079	4541-4549	4540	COM-MENTION OF	3441	7315	4	0909	0900	COM-A DUE TO S	3534

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB	SUBANCHOR CODE (S)	RECODE	TYPE	ENTRY NO.		
7315		0970	095	COM-A DUE TO S	3535			5513		COM-MENTION OF	3628		
7315		0979	095	COM-A DUE TO S	3536			7568		DELETION	3629		
7315	3	0989	0983	COM-A DUE TO S	3537			7572	1	0989	0988	COM-A DUE TO S	3630
7316	1	0119	0159	COM-A DUE TO S	3538			7579		7570-7574		DELETION	3631
7316	4	0909	0900	COM-A DUE TO S	3539			7589		740 -7588		DELETION	3632
7316		0970	095	COM-A DUE TO S	3540			7598	1	0909	0904	COM-A DUE TO S	3633
7316		0979	095	COM-A DUE TO S	3541			7599		550 -5539		DELETION	3634
7316	3	0989	0983	COM-A DUE TO S	3542			7599		740 -7439		DELETION	3635
7317	1	0119	0159	COM-A DUE TO S	3543			7599		7440		DELETION	3636
7317	4	0909	0900	COM-A DUE TO S	3544			7599		746 -7489		DELETION	3637
7317		0970	095	COM-A DUE TO S	3545			7599		750 -7539		DELETION	3638
7317		0979	095	COM-A DUE TO S	3546			7599		756		DELETION	3639
7317	3	0989	0983	COM-A DUE TO S	3547			7599		758		DELETION	3640
7318	1	0119	0159	COM-A DUE TO S	3548			7599		7590-7598		DELETION	3641
7318	4	0909	0900	COM-A DUE TO S	3549			7644		7720	7640	COM-MENTION OF	3642
7318		0970	095	COM-A DUE TO S	3550			7644		7721	7641	COM-MENTION OF	3643
7318		0979	095	COM-A DUE TO S	3551			7644		7722	7642	COM-MENTION OF	3644
7318	3	0989	0983	COM-A DUE TO S	3552			7644		7729	7643	COM-MENTION OF	3645
7319	1	0119	0159	COM-A DUE TO S	3553			7649		7720	7640	COM-MENTION OF	3646
7319	4	0909	0900	COM-A DUE TO S	3554			7649		7721	7641	COM-MENTION OF	3647
7319		0970	095	COM-A DUE TO S	3555			7649		7722	7642	COM-MENTION OF	3648
7319		0979	095	COM-A DUE TO S	3556			7649		7729	7643	COM-MENTION OF	3649
7319	3	0989	0983	COM-A DUE TO S	3557			7649		776	7644	COM-MENTION OF	3650
7331		0970	095	COM-A DUE TO S	3558			7654		7720	7650	COM-MENTION OF	3651
7331		0979	095	COM-A DUE TO S	3559			7654		7721	7651	COM-MENTION OF	3652
7339		0970	095	COM-A DUE TO S	3560			7654		7722	7652	COM-MENTION OF	3653
7339		0979	095	COM-A DUE TO S	3561			7654		7729	7653	COM-MENTION OF	3654
7350		4270	426	COM-MENTION OF	3562			7659		7720	7650	COM-MENTION OF	3655
7350		4271	426	COM-MENTION OF	3563			7659		7721	7651	COM-MENTION OF	3656
7350		429	426	COM-MENTION OF	3564			7659		7722	7652	COM-MENTION OF	3657
7350		7824	426	COM-MENTION OF	3565			7659		7729	7653	COM-MENTION OF	3658
7351		4270	426	COM-MENTION OF	3566			7659		776	7654	COM-MENTION OF	3659
7351		4271	426	COM-MENTION OF	3567			7660		742	7650	COM-A DUE TO S	3660
7351		429	426	COM-MENTION OF	3568			7661		742	7651	COM-A DUE TO S	3661
7351		7824	426	COM-MENTION OF	3569			7662		742	7653	COM-A DUE TO S	3662
7352		4270	426	COM-MENTION OF	3570			7663		742	7653	COM-A DUE TO S	3663
7352		4271	426	COM-MENTION OF	3571			7664		742	7654	COM-A DUE TO S	3664
7352		429	426	COM-MENTION OF	3572			7664		7720	7660	COM-MENTION OF	3665
7352		7824	426	COM-MENTION OF	3573			7664		7721	7661	COM-MENTION OF	3666
7359		4270	426	COM-MENTION OF	3574			7664		7722	7662	COM-MENTION OF	3667
7359		4271	426	COM-MENTION OF	3575			7664		7729	7663	COM-MENTION OF	3668
7359		429	426	COM-MENTION OF	3576			7669		742	7659	COM-A DUE TO S	3669
7359		7824	426	COM-MENTION OF	3577			7669		7720	7660	COM-MENTION OF	3670
7389		735 -7388		DELETION	3578			7669		7721	7661	COM-MENTION OF	3671
7419	1	0970	0949	COM-A DUE TO S	3579			7669		7722	7662	COM-MENTION OF	3672
7419	1	0979	0949	COM-A DUE TO S	3580			7669		7729	7663	COM-MENTION OF	3673
7419	2	3479	7410	COM-MENTION OF	3581			7669		776	7664	COM-MENTION OF	3674
7419		7410		DELETION	3582			7674		7720	7670	COM-MENTION OF	3675
7419		742	7410	COM-MENTION OF	3583			7674		7721	7671	COM-MENTION OF	3676
742		7410		DELETION	3584			7674		7722	7672	COM-MENTION OF	3677
742		7419	7410	COM-MENTION OF	3585			7674		7729	7673	COM-MENTION OF	3678
7430	1	0970	0949	COM-A DUE TO S	3586			7679		7720	7670	COM-MENTION OF	3679
7430	1	0979	0949	COM-A DUE TO S	3587			7679		7721	7671	COM-MENTION OF	3680
7439		740 -7438		DELETION	3588			7679		7722	7672	COM-MENTION OF	3681
7449		7440-7448		DELETION	3589			7679		7729	7673	COM-MENTION OF	3682
7452		3890	7450	COM-MENTION OF	3590			7679		776	7674	COM-MENTION OF	3683
7452		3891	7450	COM-MENTION OF	3591			7680		742	7650	COM-A DUE TO S	3684
7452		3892	7450	COM-MENTION OF	3592			7681		742	7651	COM-A DUE TO S	3685
7452		3899	7450	COM-MENTION OF	3593			7682		742	7652	COM-A DUE TO S	3686
7453		3890	7450	COM-MENTION OF	3594			7683		742	7653	COM-A DUE TO S	3687
7453		3891	7450	COM-MENTION OF	3595			7684		742	7654	COM-A DUE TO S	3688
7453		3892	7450	COM-MENTION OF	3596			7684		7720	7680	COM-MENTION OF	3689
7453		3899	7450	COM-MENTION OF	3597			7684		7721	7681	COM-MENTION OF	3690
7453		7450-7452		DELETION	3598			7684		7722	7682	COM-MENTION OF	3691
7459		7450-7458		DELETION	3599			7684		7729	7683	COM-MENTION OF	3692
7463		7462		DELETION	3600			7689		742	7659	COM-A DUE TO S	3693
7469		7460-7468		DELETION	3601			7689		7720	7680	COM-MENTION OF	3694
7469		7470-7474		DELETION	3602			7689		7721	7681	COM-MENTION OF	3695
7472	2	7462		DELETION	3603			7689		7722	7682	COM-MENTION OF	3696
7473		7462		DELETION	3604			7689		7729	7683	COM-MENTION OF	3697
7476	2	4309		DELETION	3605			7689		776	7684	COM-MENTION OF	3698
7476	2	4319	4309	COM-MENTION OF	3606			7711		7710		DELETION	3699
7478	2	4309		DELETION	3607			7720	2	7476	4309	COM-A DUE TO S	3700
7478	2	4319	4309	COM-MENTION OF	3608			7720	2	7478	4309	COM-A DUE TO S	3701
7479		746 -7478		DELETION	3609			7720		7644	7640	COM-MENTION OF	3702
7489		7480-7488		DELETION	3610			7720		7649	7640	COM-MENTION OF	3703
7490		7491	7492	COM-MENTION OF	3611			7720		7654	7650	COM-MENTION OF	3704
7491		7490	7492	COM-MENTION OF	3612			7720		7659	7650	COM-MENTION OF	3705
7509		749 -7508		DELETION	3613			7720		7664	7660	COM-MENTION OF	3706
7516	1	0909	0900	COM-A DUE TO S	3614			7720		7669	7660	COM-MENTION OF	3707
7519		7510-7518		DELETION	3615			7720		7674	7670	COM-MENTION OF	3708
7527	1	2559	2736	COM-MENTION OF	3616			7720		7679	7670	COM-MENTION OF	3709
7527	1	2579		DELETION	3617			7720		7684	7680	COM-MENTION OF	3710
7527		2736		DELETION	3618			7720		7689	7680	COM-MENTION OF	3711
7529		7520-7528		DELETION	3619			7721		7644	7641	COM-MENTION OF	3712
7539		7530-7538		DELETION	3620			7721		7649	7641	COM-MENTION OF	3713
7549		7540-7548		DELETION	3621			7721		7654	7651	COM-MENTION OF	3714
7554		7552-7553		DELETION	3622			7721		7659	7651	COM-MENTION OF	3715
7560	1	0909	0900	COM-A DUE TO S	3623			7721		7664	7661	COM-MENTION OF	3716
7560	2	3479	742	COM-MENTION OF	3624			7721		7669	7661	COM-MENTION OF	3717
7560	1	740		DELETION	3625			7721		7674	7671	COM-MENTION OF	3718
7560	1	742 -7439		DELETION	3626			7721		7679	7671	COM-MENTION OF	3719
7568	1	5512	5513	COM-MENTION OF	3627			7721		7684	7681	COM-MENTION OF	3720

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX A

AXIS TRANSLATION LINKAGES BEING EMPLOYED ON ICDA-8 DATA (1968 - 1978)

ANCHOR CODE (A)	AMB CODE (S)	SUBANCHOR RECODE	TYPE	ENTRY NO.	ANCHOR CODE (A)	AMB CODE (S)	SUBANCHOR RECODE	TYPE	ENTRY NO.	
7721	7689	7681	COM-MENTION OF	3721	7826	2	583	581	COM-MENTION OF	3814
7722	7644	7642	COM-MENTION OF	3722	7826	2	5932	581	COM-MENTION OF	3815
7722	7649	7642	COM-MENTION OF	3723	7828	4	0909	0900	COM-A DUE TO S	3816
7722	7654	7652	COM-MENTION OF	3724	7828		0970	095	COM-A DUE TO S	3817
7722	7659	7652	COM-MENTION OF	3725	7828		0979	095	COM-A DUE TO S	3818
7722	7664	7662	COM-MENTION OF	3726	7831		470	472	COM-MENTION OF	3819
7722	7669	7662	COM-MENTION OF	3727	7831		473 -474	472	MOD-MENTION OF	3820
7722	7674	7672	COM-MENTION OF	3728	7833	1	4589	7831	COM-MENTION OF	3821
7722	7679	7672	COM-MENTION OF	3729	7833		470	472	COM-MENTION OF	3822
7722	7684	7682	COM-MENTION OF	3730	7845		5311	5312	COM-MENTION OF	3823
7722	7689	7682	COM-MENTION OF	3731	7845		5319	5310	COM-MENTION OF	3824
7729	2 3499	7721	COM-MENTION OF	3732	7845	4	5329	5320	COM-MENTION OF	3825
7729	350	7722	COM-MENTION OF	3733	7845		5330	5312	COM-A DUE TO S	3826
7729	2 3570	7722	COM-MENTION OF	3734	7845		5339	5310	COM-A DUE TO S	3827
7729	2 3579	7722	COM-MENTION OF	3735	7845	4	5349	5340	COM-MENTION OF	3828
7729	7644	7643	COM-MENTION OF	3736	7845	1	7079	5339	COM-MENTION OF	3829
7729	7649	7643	COM-MENTION OF	3737	7853		0970	095	COM-A DUE TO S	3830
7729	7654	7653	COM-MENTION OF	3738	7853		0979	095	COM-A DUE TO S	3831
7729	7659	7653	COM-MENTION OF	3739	7857	1	7079	5339	COM-MENTION OF	3832
7729	7664	7663	COM-MENTION OF	3740	7880	4	2500		DELETION	3833
7729	7669	7663	COM-MENTION OF	3741	7880	4	2509	2500	COM-MENTION OF	3834
7729	7674	7673	COM-MENTION OF	3742	7882		5280	0749	COM-MENTION OF	3835
7729	7679	7673	COM-MENTION OF	3743	7890		6400	6402	COM-MENTION OF	3836
7729	7684	7683	COM-MENTION OF	3744	7890		6409	6401	COM-MENTION OF	3837
7729	7689	7683	COM-MENTION OF	3745	7890		6410	6412	COM-MENTION OF	3838
7749	7740-7742		DELETION	3746	7890		6419	6411	COM-MENTION OF	3839
7749	7750	7740	COM-MENTION OF	3747	7890		6430	6432	COM-MENTION OF	3840
7749	7751	7741	COM-MENTION OF	3748	7890		6439	6431	COM-MENTION OF	3841
7749	7752	7742	COM-MENTION OF	3749	7890		6440	6442	COM-MENTION OF	3842
7750	7740		DELETION	3750	7890		6449	6441	COM-MENTION OF	3843
7750	7749	7740	COM-MENTION OF	3751	7890		6450	6452	COM-MENTION OF	3844
7751	7749	7741	COM-MENTION OF	3752	7890		6459	6451	COM-MENTION OF	3845
7752	7749	7742	COM-MENTION OF	3753	792		4000	4003	COM-MENTION OF	3846
7759	7749		DELETION	3754	792		4001	4009	COM-MENTION OF	3847
7759	7750-7752		DELETION	3755	792		4002	4009	COM-MENTION OF	3848
7760	7649	7644	COM-MENTION OF	3756	792		4003		DELETION	3849
7760	7659	7654	COM-MENTION OF	3757	792		401	403	MOD-A DUE TO S	3850
7760	7669	7664	COM-MENTION OF	3758	792		6400	6402	COM-MENTION OF	3851
7760	7679	7674	COM-MENTION OF	3759	792		6409	6401	COM-MENTION OF	3852
7760	7689	7684	COM-MENTION OF	3760	792		6410	6412	COM-MENTION OF	3853
7761	7649	7644	COM-MENTION OF	3761	792		6419	6411	COM-MENTION OF	3854
7761	7659	7654	COM-MENTION OF	3762	792		6430	6432	COM-MENTION OF	3855
7761	7669	7664	COM-MENTION OF	3763	792		6439	6431	COM-MENTION OF	3856
7761	7679	7674	COM-MENTION OF	3764	792		6440	6442	COM-MENTION OF	3857
7761	7689	7684	COM-MENTION OF	3765	792		6449	6441	COM-MENTION OF	3858
7762	7649	7644	COM-MENTION OF	3766	792		6450	6452	COM-MENTION OF	3859
7762	7659	7654	COM-MENTION OF	3767	792		6459	6451	COM-MENTION OF	3860
7762	7669	7664	COM-MENTION OF	3768	794	2	2949	2900	COM-MENTION OF	3861
7762	7679	7674	COM-MENTION OF	3769	794		299	2900	COM-MENTION OF	3862
7762	7689	7684	COM-MENTION OF	3770						
7763	7649	7644	COM-MENTION OF	3771						
7763	7659	7654	COM-MENTION OF	3772						
7763	7669	7664	COM-MENTION OF	3773						
7763	7679	7674	COM-MENTION OF	3774						
7763	7689	7684	COM-MENTION OF	3775						
7764	7649	7644	COM-MENTION OF	3776						
7764	7659	7654	COM-MENTION OF	3777						
7764	7669	7664	COM-MENTION OF	3778						
7764	7679	7674	COM-MENTION OF	3779						
7764	7689	7684	COM-MENTION OF	3780						
7769	7649	7644	COM-MENTION OF	3781						
7769	7659	7654	COM-MENTION OF	3782						
7769	7669	7664	COM-MENTION OF	3783						
7769	7679	7674	COM-MENTION OF	3784						
7769	7689	7684	COM-MENTION OF	3785						
7769	7760-7764		DELETION	3786						
7789	1 0909	0900	COM-A DUE TO S	3787						
7800	2509	2500	COM-MENTION OF	3788						
7804	0949	0940	COM-MENTION OF	3789						
7810	0970	095	COM-A DUE TO S	3790						
7810	0979	095	COM-A DUE TO S	3791						
7811	1 2422	2420	COM-MENTION OF	3792						
7815	0970	0949	COM-A DUE TO S	3793						
7815	0979	0949	COM-A DUE TO S	3794						
7816	0970	0949	COM-A DUE TO S	3795						
7816	0979	0949	COM-A DUE TO S	3796						
7817	401	4360	COM-A DUE TO S	3797						
7817	4400	4379	MOD-A DUE TO S	3798						
7817	4401	4379	MOD-A DUE TO S	3799						
7817	4402	4379	MOD-A DUE TO S	3800						
7817	4403	4379	MOD-A DUE TO S	3801						
7817	4409	4379	MOD-A DUE TO S	3802						
7824	0970	0939	COM-A DUE TO S	3803						
7824	0979	0939	COM-A DUE TO S	3804						
7824	1 390	3919	COM-MENTION OF	3805						
7824	4 390	398	COM-MENTION OF	3806						
7824	4000	4001	COM-A DUE TO S	3807						
7824	4002	4009	COM-A DUE TO S	3808						
7824	4003	4009	COM-A DUE TO S	3809						
7824	401	402	MOD-A DUE TO S	3810						
7824	1 4299	4270	COM-MENTION OF	3811						
7824	5191	4271	COM-MENTION OF	3812						
7824	735	426	COM-MENTION OF	3813						

NOTE: SEE TEXT FOR EXPLANATION OF COLUMN LABELS AND CONTENT

APPENDIX B

RECORD AXIS MULTIPLE CAUSE CODES WHICH MAY HAVE BEEN GENERATED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

ENTRY																			
CODE NO.																			
0030	0003	0160	2704	040	0772	0904	3633	0949	0691	095	0538	095	2285	095	3461	0981	2649	1200	0314
0030	0006	0161	2737	041	0187	0905	0238	0949	0692	095	0576	095	2297	095	3462	0981	2735	1200	0315
0060	0009	0161	2760	041	0709	0905	0248	0949	0693	095	0577	095	2298	095	3464	0981	2740	1200	0316
0060	2506	0161	2763	041	0714	0910	2971	0949	0698	095	0585	095	2302	095	3465	0981	2761	1200	0317
010	0022	0161	2767	041	0725	0910	2973	0949	0699	095	0586	095	2303	095	3467	0981	2766	1200	0318
010	0024	0161	2788	041	0730	0930	1846	0949	0711	095	0588	095	2313	095	3468	0981	2770	1200	0319
010	0026	0161	2793	041	0735	0930	1847	0949	0712	095	0589	095	2314	095	3471	0981	2796	1200	0320
010	0029	0162	0435	0749	0196	0930	1848	0949	0716	095	0592	095	2408	095	3472	0981	2799	1200	0321
010	0031	0162	2798	0749	0200	0930	1849	0949	0717	095	0593	095	2409	095	3477	0981	2806	1200	0322
010	0033	0162	2803	0749	2257	0930	1850	0949	0727	095	0595	095	2430	095	3478	0981	2808	1200	0323
010	0036	0162	2810	0749	3835	0930	1851	0949	0728	095	0596	095	2431	095	3481	0981	2811	1200	0324
010	0037	0162	2813	0848	0204	0930	1852	0949	0732	095	0598	095	2459	095	3482	0981	2814	1200	0325
010	0038	0162	2822	0848	0205	0930	1854	0949	0733	095	0599	095	2460	095	3487	0981	2818	1200	0326
010	0040	0162	2843	0848	0206	0930	1855	0949	0737	095	0600	095	2464	095	3488	0981	2825	1200	0327
010	0041	0162	2864	0848	0207	0939	0881	0949	0738	095	0601	095	2465	095	3489	0981	2846	1200	0328
010	0042	0162	2886	0848	0208	0939	0883	0949	0745	095	0797	095	2467	095	3490	0981	2867	1200	0329
010	2193	0162	2887	0848	0209	0939	1064	0949	0746	095	0798	095	2468	095	3491	0981	2892	1200	0330
010	2194	0162	2888	0848	0210	0939	1092	0949	0747	095	0806	095	2499	095	3492	0981	2917	1200	0331
010	2195	0162	2889	0848	0211	0939	1116	0949	0748	095	0807	095	2500	095	3493	0981	2922	1200	0332
010	2196	0162	2894	0848	0212	0939	1329	0949	0749	095	0812	095	2508	095	3494	0981	2952	1200	0333
0121	0021	0162	2911	0848	0213	0939	1330	0949	0750	095	0813	095	2509	095	3495	0981	2975	1200	0334
0121	0023	0162	2912	0848	0214	0939	1345	0949	0751	095	0817	095	2516	095	3496	0981	3014	1200	0335
0121	0025	0162	2913	0848	0215	0939	1346	0949	0752	095	0818	095	2517	095	3497	0981	3018	1200	0336
0121	0028	0162	2914	0848	0216	0939	1353	0949	0753	095	0826	095	2529	095	3498	0981	3431	1200	0337
0121	0030	0162	2919	0848	0217	0939	1389	0949	0754	095	0827	095	2530	095	3499	0982	0814	1201	0297
0121	0032	0162	2940	0848	0218	0939	1390	0949	0755	095	0830	095	2532	095	3500	0982	0821	1201	0298
0121	0035	0162	2941	0848	0219	0939	1398	0949	0756	095	0831	095	2533	095	3501	0982	0828	1201	0299
0121	0039	0162	2942	0848	0220	0939	1413	0949	0757	095	0834	095	2534	095	3502	0983	3450	1201	0300
0121	2184	0162	2943	0848	0221	0939	1414	0949	0758	095	0835	095	2535	095	3503	0983	3453	1201	0303
0121	2185	0162	2944	0848	0222	0939	1429	0949	0764	095	0839	095	2552	095	3504	0983	3457	1201	0304
0121	2190	0162	2945	0848	0223	0939	1450	0949	0773	095	0841	095	2553	095	3505	0983	3459	1201	0305
0123	2093	0162	2946	0848	0224	0939	1451	0949	0774	095	0844	095	2568	095	3506	0983	3507	1201	0306
0129	2074	0162	2948	0860	0230	0939	1453	0949	0782	095	0845	095	2569	095	3510	0983	3512	1201	0307
0129	2077	0162	2951	0860	1365	0939	1454	0949	0783	095	0846	095	2583	095	3511	0983	3517	1202	0302
0129	2080	0162	2970	0860	1367	0939	1474	0949	0838	095	0847	095	2584	095	3515	0983	3522	1203	0338
0129	2083	0170	3413	0860	1369	0939	1475	0949	0840	095	0854	095	2625	095	3516	0983	3527	1300	0349
0129	2088	0170	3414	0860	1380	0939	1495	0949	0848	095	0855	095	2626	095	3520	0983	3532	1300	0350
0129	2092	0170	3415	0860	1388	0939	1496	0949	0849	095	0874	095	2647	095	3521	0983	3537	1300	0351
0129	2161	0170	3416	0860	1397	0939	1506	0949	0857	095	0876	095	2648	095	3525	0983	3542	1300	0352
0129	2166	0170	3417	0860	1412	0939	1507	0949	0858	095	0877	095	2718	095	3526	0983	3547	1300	0353
0129	2169	0170	3418	0860	1428	0939	1517	0949	0859	095	0878	095	2719	095	3530	0983	3552	1300	0354
0129	2172	0170	3419	0860	1448	0939	1518	0949	0860	095	0879	095	2738	095	3531	0983	3557	1300	0355
0130	0655	0170	3420	0860	1449	0939	1528	0949	0873	095	0880	095	2739	095	3535	0988	0433	1300	0356
0130	0656	0170	3436	0860	1452	0939	1529	0949	0875	095	0882	095	2758	095	3536	0988	0587	1300	0357
0130	0658	0171	3421	0860	1473	0939	1539	0949	0916	095	0884	095	2759	095	3540	0988	0590	1300	0358
0130	0659	0172	0810	0860	1494	0939	1540	0949	0917	095	0885	095	2764	095	3541	0988	0594	1300	0359
0130	0761	0172	0816	0860	1505	0939	1550	0949	1640	095	0886	095	2765	095	3545	0988	0670	1402	0360
0139	0675	0172	0819	0860	1516	0939	1551	0949	1641	095	0888	095	2768	095	3546	0988	1065	1402	0361
0139	0676	0172	0820	0860	1527	0939	1561	0949	1661	095	0889	095	2769	095	3550	0988	1117	1539	0416
014	2318	0172	0824	0860	1538	0939	1562	0949	1662	095	0914	095	2789	095	3551	0988	1399	1539	0420
014	2319	0172	0829	0860	1549	0939	1585	0949	1685	095	0915	095	2790	095	3555	0988	1415	1540	0374
014	2322	0172	0832	0860	1560	0939	1586	0949	1686	095	0918	095	2791	095	3556	0988	1430	1540	0376
014	2325	0172	0836	0860	1584	0939	1610	0949	1705	095	0919	095	2792	095	3558	0988	1587	1540	0378
014	2326	0172	0842	0860	1609	0939	1611	0949	1706	095	1853	095	2794	095	3559	0988	1612	1540	0379
014	2404	0172	0850	0868	0228	0939	1825	0949	1742	095	2070	095	2795	095	3560	0988	2410	1542	0380
014	2406	0172	0851	0868	0229	0939	1826	0949	1743	095	2071	095	2801	095	3561	0988	2432	1542	0391
014	2407	0172	0852	0868	0666	0939	1830	0949	1760	095	2095	095	2802	095	3790	0988	2456	1550	0413
014	2429	0172	0853	0868	0759	0939	1831	0949	1761	095	2096	095	2804	095	3791	0988	2461	191	0399
014	2455	0173	0891	0868	0760	0939	1835	0949	1780	095	2159	095	2805	095	3817	0988	2510	191	0400
014	2457	0173	0894	0868	0762	0939	1836	0949	1781	095	2160	095	2816	095	3818	0988	3425	191	0401
014	2458	0173	0897	0900	0242	0939	1840	0949	1801	095	2162	095	2817	095	3830	0988	3447	191	0477
014	2462	0173	0901	0900	0244	0939	1841	0949	1802	095	2163	095	2820	095	3831	0988	3473	1968	0403
014	2463	0173	0902	0900	0255	0939	1858	0949	1857	095	2173	095	2821	0980	2537	0988	3630	1968	0404
014	2466	0173	0903	0900	0267	0939	1860	0949	1859	095	2174	095	2823	0980	2571	1000	0197	1968	0405
014	2515	0179	0498	0900	0591	0939	1972	0949	1974	095	2178	095	2824	0980	2586	1008	0190	1968	0406
0158	0904	0179	0499	0900	0825	0939	1973	0949	1976	095	2179	095	2844	0980	2628	1021	0272	1968	0407
01																			

APPENDIX B

RECORD AXIS MULTIPLE CAUSE CODES WHICH MAY HAVE BEEN GENERATED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

CODE	ENTRY NO.																		
2553	0455	3911	1066	3919	1157	3940	1406	398	3806	4009	1487	403	2595	4130	1299	4320	1699	4389	0740
2550	0456	3911	1083	3919	1160	3950	0932	4001	1162	4009	1488	403	2615	4130	1316	4330	1264	4389	0741
2550	0457	3911	1093	3919	1371	3950	0934	4001	1174	4009	1499	403	2618	4130	1328	4330	1710	4389	0742
2550	0459	3911	1110	3919	1372	3950	0953	4001	1193	4009	1500	403	2619	4130	1359	4330	1711	4389	0743
2550	0484	3911	1118	3919	1373	3950	0974	4001	1194	4009	1510	403	2620	4130	1360	4330	1712	4389	0744
2550	0519	3911	1133	3919	1375	3950	1000	4001	1195	4009	1511	403	2621	4130	1361	4330	1713	4450	1824
2550	0521	3911	1145	3919	1376	3950	1023	4001	1287	4009	1521	403	2622	4130	1362	4330	1715	4450	1829
2550	0523	3911	1370	3919	1377	3950	1039	4001	1464	4009	1522	403	2723	4130	1363	4330	1716	4450	1834
2550	0524	3911	1374	3919	1378	3950	1084	4001	1465	4009	1532	403	3850	4240	1080	4330	1717	4450	1839
2560	0470	3911	1400	3919	1379	3950	1094	4001	1485	4009	1533	404	1289	4240	1081	4330	1718	4450	1845
2560	0522	3911	1405	3919	1382	3950	1104	4001	1486	4009	1543	404	1300	4240	1082	4330	1719	4450	1963
2600	0528	3911	1416	3919	1383	3950	1105	4001	1497	4009	1544	404	1306	4240	1130	4340	1266	4540	2051
2600	0890	3911	1421	3919	1384	3950	1106	4001	1498	4009	1554	404	1317	4240	1131	4340	1728	4540	2053
2736	0512	3911	1431	3919	1385	3950	1417	4001	1508	4009	1555	404	1470	4240	1132	4340	1729	4540	3435
2736	0518	3911	1439	3919	1387	3950	1418	4001	1509	4009	1577	404	1491	4240	1410	4340	1730	4540	3441
2736	0520	3912	0943	3919	1394	3950	1420	4001	1519	4009	1578	404	1503	4241	1107	4340	1731	460	2068
2736	3616	3912	0947	3919	1403	3950	1422	4001	1520	4009	1601	404	1514	4241	1108	4340	1732	460	2087
280	0539	3912	0961	3919	1407	3950	1424	4001	1530	4009	1602	404	1525	4241	1109	4340	1734	460	2164
280	0579	3912	0986	3919	1409	3960	0936	4001	1531	4009	1626	404	1536	4241	1426	4340	1735	462	2084
280	0583	3912	1012	3919	1419	3960	0938	4001	1541	4009	1627	404	1547	4249	1139	4340	1736	463	2089
280	3430	3912	1152	3919	1423	3960	1061	4001	1542	4009	1637	404	1558	4249	1140	4340	1737	464	2094
2819	0578	3912	1159	3919	1425	3960	1063	4001	1552	4009	1638	404	1581	4249	1141	4350	1268	465	2104
2850	0535	3912	1381	3919	1436	3960	1073	4001	1553	4009	1643	404	1605	4249	1142	4350	1747	466	2100
2850	0575	3912	1386	3919	1455	3960	1089	4001	1575	4009	1644	404	1630	4249	1143	4350	1748	466	2107
2900	0604	3912	1563	3919	1458	3960	1091	4001	1576	4009	1658	404	2616	4249	1144	4350	1749	466	2150
2900	0614	3912	1568	3919	1460	3960	1099	4001	1599	4009	1659	4100	1166	4249	1447	4350	1750	471	2116
2900	3861	3912	1572	3919	1462	3960	1111	4001	1600	4009	1664	4100	1184	426	1472	4350	1751	471	2120
2900	3862	3919	0944	3919	1476	3960	1119	4001	1624	4009	1665	4100	1204	426	1493	4350	1752	471	2122
2901	0525	3919	0957	3919	1479	3960	1124	4001	1625	4009	1682	4100	1223	426	1608	4350	1754	471	2126
2901	0526	3919	0959	3919	1481	3960	1125	4001	3807	4009	1683	4100	1236	426	1633	4350	1755	471	2127
2901	0602	3919	0963	3919	1483	3960	1127	4002	1175	4009	1688	4100	1247	426	3562	4360	1270	471	2128
2901	0607	3919	0964	3919	1566	3960	1128	4002	1636	4009	1689	4100	1292	426	3563	4360	1765	471	2129
2901	0612	3919	0966	3919	1569	3960	1129	4002	1642	4009	1702	4100	1309	426	3564	4360	1766	471	2130
2901	0687	3919	0967	3919	1588	3969	1074	4002	1657	4009	1703	4100	1321	426	3565	4360	1767	471	2131
2919	0603	3919	0969	3919	1592	3969	1100	4002	1663	4009	1708	4100	1331	426	3566	4360	1768	471	2132
2919	0610	3919	0970	3919	1594	3970	0940	4002	1681	4009	1709	4100	1333	426	3567	4360	1769	471	2133
2919	0620	3919	0973	3919	1597	3970	0955	4002	1687	4009	1722	4100	1334	426	3568	4360	1770	471	2134
2919	0621	3919	0975	3919	1613	3970	1002	4002	1701	4009	1723	4100	1335	426	3569	4360	1771	471	2135
2919	0627	3919	0978	3919	1617	3970	1134	4002	1707	4009	1726	4100	1336	426	3570	4360	1773	471	2136
2919	0628	3919	0980	3919	1619	3970	1433	4002	1721	4009	1727	4110	1168	426	3571	4360	1774	471	2137
2919	0638	3919	0982	3919	1622	3970	1437	4002	1725	4009	1740	4110	1186	426	3572	4360	3797	471	2138
2919	0639	3919	0983	3919	3805	3979	0942	4002	1739	4009	1741	4110	1206	426	3573	4370	1272	471	2139
2919	0645	3919	0989	3920	0968	3979	0956	4002	1744	4009	1745	4110	1225	426	3574	4370	1785	471	2140
2919	0646	3919	0992	3920	0995	3979	0976	4002	1756	4009	1746	4110	1238	426	3575	4370	1786	471	2141
2949	0611	3919	0993	3920	1019	3979	1003	4002	1762	4009	1757	4110	1249	426	3576	4370	1787	471	2142
2949	0651	3919	0994	3920	1036	3979	1025	4002	1776	4009	1758	4110	1294	426	3577	4370	1788	471	2143
299	0613	3919	0996	3920	1042	3979	1041	4002	1782	4009	1763	4110	1311	426	3813	4370	1789	471	2144
3431	0703	3919	0997	3920	1045	3979	1146	4002	1795	4009	1764	4110	1323	4270	1634	4370	1790	471	2145
3439	0694	3919	1006	3920	1046	3979	1432	4002	1803	4009	1777	4110	1337	4270	3811	4370	1791	471	2147
3439	0695	3919	1008	3920	1047	3979	1434	4003	1163	4009	1778	4110	1338	4271	1607	4370	1793	471	2148
3439	0696	3919	1009	3920	1048	3979	1438	4003	1176	4009	1783	4110	1340	4271	1632	4370	1798	471	2191
3439	0700	3919	1014	3920	1049	3979	1440	4003	1177	4009	1784	4110	1341	4271	2198	4370	1799	471	2192
3439	0701	3919	1016	3920	1463	3979	1441	4003	1178	4009	1796	4110	1342	4271	2201	4379	0765	471	2216
3439	0702	3919	1017	3920	1484	3979	1446	4003	1220	4009	1797	4121	1170	4271	3812	4379	0766	472	2072
3439	0704	3919	1018	3920	1573	398	0945	4003	1301	4009	1804	4121	1189	428	1635	4379	0767	472	2073
3439	0705	3919	1020	3920	1598	398	0958	4003	1304	4009	1805	4121	1209	4300	1258	4379	0768	472	2075
3439	0706	3919	1022	3920	1623	398	0960	4003	2538	4009	2539	4121	1228	4300	1645	4379	0769	472	2076
3630	0823	3919	1024	393	0926	398	0962	4003	2554	4009	2555	4121	1241	4300	1647	4379	0776	472	2078
3630	3439	3919	1027	393	0949	398	0965	4003	2572	4009	2573	4121	1252	4300	1648	4379	0777	472	2079
3820	0892	3919	1029	393	0971	398	0977	4003	2587	4009	2574	4121	1296	4300	1649	4379	0778	472	2081
3820	0893	3919	1032	393	0984	398	0979	4003	2611	4009	2588	4121	1313	4300	1650	4379	0779	472	2082
3820	0898	3919	1035	393	0987	398	0981	4003	2720	4009	2589	4121	1325	4300	1651	4379	0780	472	2085
3820	0905	3919	1038	393	0990	398	0985	4003	3846	4009	2612	4121	1344	4300	1652	4379	1816	472	2086
3820	0906	3919	1040	393	1010	398	0988	4009	1164	4009	2613	4121	1347	4300	1653	4379	1817	472	2090
3820	0911	3919	1052	393	1013	398	0991	4009	1179	4009	2721	4121	1348	4300	1654	4379	1818	472	2091
3821	0895	3919	1053	393	1015	398	1005	4009	1180	4009	3808	4121	1349	4309	1655	4379	1819	472	2098

APPENDIX B

RECORD AXIS MULTIPLE CAUSE CODES WHICH MAY HAVE BEEN GENERATED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

ENTRY																			
NO.																			
472	3822	5400	2434	5710	0648	6311	2033	6313	1869	6400	3128	6402	3111	6412	1888	6420	2963	6430	2753
473	0011	5513	2339	5710	0649	6311	2414	6313	1885	6400	3129	6402	3112	6412	1904	6420	2986	6430	2783
473	0012	5513	2352	5710	2496	6311	2437	6313	1901	6400	3132	6402	3113	6412	1920	6420	3007	6430	2838
473	0013	5513	3627	5710	2497	6311	2631	6313	1917	6400	3133	6402	3114	6412	1936	6420	3213	6430	2859
473	0014	5513	3628	5710	2502	6311	2654	6313	1933	6400	3134	6402	3115	6412	1952	6420	3214	6430	2881
473	0015	552	1965	5710	2503	6311	2671	6313	1949	6400	3135	6402	3836	6412	1984	6420	3215	6430	2906
473	0016	552	2327	5710	2511	6311	2688	6313	1981	6400	3136	6402	3851	6412	2002	6420	3216	6430	2935
473	0017	552	2328	5710	2512	6311	2706	6313	1999	6400	3137	6410	0056	6412	2020	6420	3218	6430	2965
473	0018	552	2329	5710	2513	6311	2743	6313	2017	6400	3138	6410	0076	6412	2038	6420	3219	6430	2988
473	0019	552	2353	5710	2514	6311	2773	6313	2035	6401	0785	6410	0092	6412	2040	6420	3220	6430	3009
473	0020	552	2361	5710	2518	6311	2828	6313	2416	6401	0791	6410	0108	6412	2419	6420	3221	6430	3256
473	2110	552	2370	5710	2519	6311	2849	6313	2439	6401	0799	6410	0125	6412	2442	6420	3222	6430	3257
473	2111	552	2378	5718	2501	6311	2871	6313	2633	6401	1278	6410	0141	6412	2488	6420	3223	6430	3260
473	2123	552	2386	5740	2522	6311	2896	6313	2656	6401	2487	6410	0158	6412	2543	6420	3224	6430	3261
473	2405	552	2394	5740	2525	6311	2925	6313	2673	6401	2542	6410	0174	6412	2559	6420	3225	6430	3262
474	0657	552	2479	5741	2523	6311	2955	6313	2690	6401	2558	6410	1873	6412	2599	6420	3226	6430	3263
474	0673	5530	1966	5741	2526	6311	2978	6313	2745	6401	2598	6410	1889	6412	2636	6420	3227	6430	3268
474	0685	5530	2330	581	2608	6311	2999	6313	2775	6401	2709	6410	1905	6412	2659	6420	3228	6430	3269
474	2112	5530	2331	581	2734	6311	3037	6313	2830	6401	2725	6410	1921	6412	2676	6422	0057	6430	3272
474	2113	5530	2332	581	3814	6311	3038	6313	2851	6401	3118	6410	1937	6412	2693	6422	0077	6430	3273
481	0117	5530	2354	581	3815	6311	3039	6313	2873	6401	3119	6410	1953	6412	2710	6422	0093	6430	3274
481	2146	5530	2362	582	1395	6311	3040	6313	2898	6401	3124	6410	1985	6412	2726	6422	0109	6430	3275
491	2153	5530	2371	5900	2623	6311	3041	6313	2927	6401	3125	6410	2003	6412	2748	6422	0126	6430	3276
491	2154	5530	2379	5900	2651	6311	3042	6313	2957	6401	3126	6410	2021	6412	2778	6422	0142	6430	3277
491	2155	5530	2387	6216	2947	6311	3043	6313	2980	6401	3127	6410	2039	6412	2833	6422	0159	6430	3278
491	2156	5530	2395	6310	0049	6311	3044	6313	3001	6401	3130	6410	2042	6412	2854	6422	0175	6431	0788
5310	2059	5530	2480	6310	0069	6311	3045	6313	3069	6401	3131	6410	2420	6412	2876	6422	1874	6431	0794
5310	2279	5531	1967	6310	0085	6311	3046	6313	3070	6401	3140	6410	2443	6412	2901	6422	1890	6431	0802
5310	2281	5531	2333	6310	0101	6311	3047	6313	3071	6401	3141	6410	2637	6412	2930	6422	1906	6431	1282
5310	2282	5531	2334	6310	0118	6311	3048	6313	3072	6401	3837	6410	2660	6412	2960	6422	1922	6431	2491
5310	2471	5531	2335	6310	0134	6311	3049	6313	3073	6401	3852	6410	2677	6412	2983	6422	1938	6431	2546
5310	3824	5531	2355	6310	0151	6311	3050	6313	3074	6402	0053	6410	2694	6412	3004	6422	1954	6431	2562
5310	3827	5531	2363	6310	0167	6311	3051	6313	3075	6402	0073	6410	2749	6412	3142	6422	1986	6431	2602
5312	2058	5531	2372	6310	1866	6311	3052	6313	3076	6402	0089	6410	2779	6412	3143	6422	2004	6431	2713
5312	2271	5531	2380	6310	1882	6312	0051	6313	3077	6402	0105	6410	2834	6412	3144	6422	2022	6431	2729
5312	2275	5531	2388	6310	1898	6312	0071	6313	3078	6402	0122	6410	2855	6412	3145	6422	2041	6431	3258
5312	2276	5531	2396	6310	1914	6312	0087	6313	3079	6402	0138	6410	2877	6412	3146	6422	2421	6431	3259
5312	2277	5531	2481	6310	1930	6312	0103	6313	3080	6402	0155	6410	2902	6412	3147	6422	2444	6431	3264
5312	2278	5532	1968	6310	1946	6312	0120	6313	3081	6402	0171	6410	2931	6412	3148	6422	2638	6431	3265
5312	2470	5532	2336	6310	1978	6312	0136	6313	3082	6402	1277	6410	2961	6412	3149	6422	2661	6431	3266
5312	3823	5532	2337	6310	1996	6312	0153	6313	3083	6402	1870	6410	2984	6412	3150	6422	2678	6431	3267
5312	3826	5532	2338	6310	2014	6312	0169	6324	3084	6402	1886	6410	3005	6412	3151	6422	2695	6431	3270
5319	2280	5532	2356	6310	2032	6312	1868	6330	0545	6402	1902	6410	3169	6412	3152	6422	2750	6431	3271
5319	2315	5532	2364	6310	2413	6312	1884	6330	0550	6402	1918	6410	3170	6412	3153	6422	2780	6431	3280
5320	2061	5532	2373	6310	2436	6312	1900	6330	0555	6402	1934	6410	3173	6412	3154	6422	2835	6431	3281
5320	2291	5532	2381	6310	2630	6312	1916	6330	0560	6402	1950	6410	3174	6412	3155	6422	2856	6431	3841
5320	2293	5532	2389	6310	2653	6312	1932	6330	0565	6402	1982	6410	3175	6412	3156	6422	2878	6431	3856
5320	2294	5532	2397	6310	2670	6312	1948	6330	0570	6402	2000	6410	3176	6412	3157	6422	2903	6432	0059
5320	2296	5532	2482	6310	2687	6312	1980	6330	3086	6402	2018	6410	3181	6412	3158	6422	2932	6432	0079
5320	2317	5533	1969	6310	2705	6312	1998	6331	0540	6402	2036	6410	3182	6412	3159	6422	2962	6432	0095
5320	2473	5533	2340	6310	2742	6312	2016	6331	3085	6402	2417	6410	3185	6412	3160	6422	2985	6432	0111
5320	3825	5533	2341	6310	2772	6312	2034	6339	0580	6402	2440	6410	3186	6412	3161	6422	3006	6432	0128
5321	2292	5533	2342	6310	2827	6312	2415	6339	3087	6402	2486	6410	3187	6412	3162	6422	3195	6432	0144
5321	2299	5533	2357	6310	2848	6312	2438	6400	0054	6402	2541	6410	3188	6412	3163	6422	3196	6432	0161
5322	2060	5533	2365	6310	2870	6312	2632	6400	0074	6402	2557	6410	3189	6412	3164	6422	3197	6432	0177
5322	2272	5533	2374	6310	2895	6312	2655	6400	0090	6402	2597	6410	3190	6412	3165	6422	3198	6432	1281
5322	2283	5533	2382	6310	2924	6312	2672	6400	0106	6402	2634	6410	3191	6412	3166	6422	3199	6432	1876
5322	2286	5533	2390	6310	2954	6312	2689	6400	0123	6402	2657	6410	3217	6412	3167	6422	3201	6432	1892
5322	2287	5533	2398	6310	2977	6312	2707	6400	0139	6402	2674	6411	0787	6412	3168	6422	3202	6432	1908
5322	2288	5533	2483	6310	2998	6312	2744	6400	0156	6402	2691	6411	0793	6412	3200	6422	3203	6432	1924
5322	2289	5538	1970	6310	3021	6312	2774	6400	0172	6402	2708	6411	0801	6412	3838	6422	3204	6432	1940
5322	2290	5538	2343	6310	3022	6312	2829	6400	1871	6402	2724	6411	1280	6412	3853	6422	3205	6432	1956
5322	2295	5538	2344	6310	3023	6312	2850	6400	1887	6402	2746	6411	2489	6420	0058	6422	3206	6432	1988
5322	2316	5538	2345	6310	3024	6312	2872	6400	1903	6402	2776	6411	2544	6420	0078	6422	3207	6432	2006
5322	2472	5538	2358	6310	3025	6312	2897	6400	1919	6402	2831	6411	2560	6420	0094	6422	3208	6432	2024
5322																			

APPENDIX B

RECORD AXIS MULTIPLE CAUSE CODES WHICH MAY HAVE BEEN GENERATED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

| ENTRY |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| CODE NO. |
6432	3235	6441	3858	6450	2702	6452	3337	6808	3410	7661	3716				
6432	3236	6442	0061	6450	2757	6452	3338	6808	3411	7661	3717				
6432	3237	6442	0081	6450	2787	6452	3339	6960	3454	7662	3667				
6432	3238	6442	0097	6450	2842	6452	3340	7130	3456	7662	3672				
6432	3239	6442	0113	6450	2863	6452	3341	7341	0686	7662	3726				
6432	3240	6442	0130	6450	2885	6452	3342	7341	2551	7662	3727				
6432	3241	6442	0146	6450	2910	6452	3343	7341	2567	7663	3668				
6432	3242	6442	0163	6450	2939	6452	3344	7341	2581	7663	3673				
6432	3243	6442	0179	6450	2969	6452	3345	7341	2607	7663	3740				
6432	3244	6442	1283	6450	2992	6452	3346	7410	0770	7663	3741				
6432	3245	6442	1878	6450	3013	6452	3347	7410	3581	7664	3674				
6432	3246	6442	1894	6450	3361	6452	3348	7410	3583	7664	3758				
6432	3247	6442	1910	6450	3362	6452	3349	7410	3585	7664	3763				
6432	3248	6442	1926	6450	3365	6452	3350	742	0771	7664	3768				
6432	3249	6442	1942	6450	3366	6452	3351	742	3624	7664	3773				
6432	3250	6442	1958	6450	3367	6452	3352	7450	0920	7664	3778				
6432	3251	6442	1990	6450	3368	6452	3353	7450	0921	7664	3783				
6432	3252	6442	2008	6450	3373	6452	3354	7450	0922	7670	3675				
6432	3253	6442	2026	6450	3374	6452	3355	7450	0923	7670	3679				
6432	3254	6442	2046	6450	3377	6452	3356	7450	3590	7670	3708				
6432	3255	6442	2425	6450	3378	6452	3357	7450	3591	7670	3709				
6432	3840	6442	2448	6450	3379	6452	3358	7450	3592	7671	3676				
6432	3855	6442	2492	6450	3380	6452	3359	7450	3593	7671	3680				
6440	0062	6442	2547	6450	3381	6452	3360	7450	3594	7671	3718				
6440	0082	6442	2563	6450	3382	6452	3844	7450	3595	7671	3719				
6440	0098	6442	2603	6450	3383	6452	3859	7450	3596	7672	3677				
6440	0114	6442	2642	6451	0790	653	0546	7450	3597	7672	3681				
6440	0131	6442	2665	6451	0796	653	0547	7492	3611	7672	3728				
6440	0147	6442	2682	6451	0804	653	0551	7492	3612	7672	3729				
6440	0164	6442	2699	6451	1286	653	0552	7640	3642	7673	3678				
6440	0180	6442	2714	6451	2495	653	0556	7640	3646	7673	3682				
6440	1879	6442	2730	6451	2550	653	0557	7640	3702	7673	3742				
6440	1895	6442	2754	6451	2566	653	0561	7640	3703	7673	3743				
6440	1911	6442	2784	6451	2606	653	0562	7641	3643	7674	3683				
6440	1927	6442	2839	6451	2717	653	0566	7641	3647	7674	3759				
6440	1943	6442	2860	6451	2733	653	0567	7641	3712	7674	3764				
6440	1959	6442	2882	6451	3363	653	0571	7641	3713	7674	3769				
6440	1991	6442	2907	6451	3364	653	0572	7642	3644	7674	3774				
6440	2009	6442	2936	6451	3369	653	3386	7642	3648	7674	3779				
6440	2027	6442	2966	6451	3370	653	3395	7642	3722	7674	3784				
6440	2047	6442	2989	6451	3371	674	0674	7642	3723	7680	3689				
6440	2426	6442	3010	6451	3372	674	1639	7643	3645	7680	3694				
6440	2449	6442	3282	6451	3375	674	1656	7643	3649	7680	3710				
6440	2643	6442	3283	6451	3376	674	1660	7643	3734	7680	3711				
6440	2666	6442	3284	6451	3384	674	1678	7643	3737	7681	3690				
6440	2683	6442	3285	6451	3385	674	1684	7644	3650	7681	3695				
6440	2700	6442	3286	6451	3845	674	1700	7644	3756	7681	3720				
6440	2755	6442	3287	6451	3860	674	1704	7644	3761	7681	3721				
6440	2785	6442	3288	6452	0063	674	1720	7644	3766	7682	3691				
6440	2840	6442	3289	6452	0083	674	1724	7644	3771	7682	3696				
6440	2861	6442	3290	6452	0099	674	1738	7644	3776	7682	3730				
6440	2883	6442	3291	6452	0115	674	1759	7644	3781	7682	3731				
6440	2908	6442	3292	6452	0132	674	1775	7650	3651	7683	3692				
6440	2937	6442	3293	6452	0148	674	1779	7650	3655	7683	3697				
6440	2967	6442	3294	6452	0165	674	1794	7650	3660	7683	3744				
6440	2990	6442	3295	6452	0181	674	1800	7650	3684	7683	3745				
6440	3011	6442	3296	6452	1285	674	1821	7650	3704	7684	3698				
6440	3308	6442	3297	6452	1880	674	3387	7650	3705	7684	3760				
6440	3309	6442	3298	6452	1896	674	3388	7651	3652	7684	3765				
6440	3312	6442	3299	6452	1912	674	3389	7651	3656	7684	3770				
6440	3313	6442	3300	6452	1928	675	0584	7651	3661	7684	3775				
6440	3314	6442	3301	6452	1944	675	3403	7651	3685	7684	3780				
6440	3315	6442	3302	6452	1960	676	0541	7651	3714	7684	3785				
6440	3320	6442	3303	6452	1992	676	0542	7651	3715	7721	0781				
6440	3321	6442	3304	6452	2010	676	0548	7652	3653	7721	3732				
6440	3324	6442	3305	6452	2028	676	0549	7652	3657	7722	0784				
6440	3325	6442	3306	6452	2048	676	0553	7652	3686	7722	0805				
6440	3326	6442	3307	6452	2049	676	0554	7652	3724	7722	0809				
6440	3327	6442	3842	6452	2427	676	0558	7652	3725	7722	3733				
6440	3328	6442	3857	6452	2450	676	0559	7653	3654	7722	3734				
6440	3329	6450	0064	6452	2494	676	0563	7653	3658	7722	3735				
6440	3330	6450	0084	6452	2549	676	0564	7653	3662	7740	3747				
6441	0789	6450	0100	6452	2565	676	0568	7653	3663	7740	3751				
6441	0795	6450	0116	6452	2605	676	0569	7653	3687	7741	3748				
6441	0803	6450	0133	6452	2644	676	0573	7653	3738	7741	3752				
6441	1284	6450	0149	6452	2667	676	0574	7653	3739	7742	3749				
6441	2493	6450	0166	6452	2684	676	0581	7654	3659	7742	3753				
6441	2548	6450	0182	6452	2701	676	0582	7654	3664	7831	2067				
6441	2564	6450	1881	6452	2716	676	3397	7654	3688	7831	3821				
6441	2604	6450	1897	6452	2732	676	3398	7654	3757	794	0532				
6441	2715	6450	1913	6452	2756	676	3399	7654	3762						
6441	2731	6450	1929	6452	2786	676	3400	7654	3767						
6441	3310	6450	1945	6452	2841	676	3401	7654	3772						
6441	3311	6450	1961	6452	2862	676	3402	7654	3777						
6441	3316	6450	1993	6452	2884	6772	2065	7654	3782						
6441	3317	6450	2011	6452	2909	6772	3404	7659	3669						
6441	3318	6450	2029	6452	2938	6779	2520	7659	3693						
6441	3319	6450	2050	6452	2968	6779	3390	7660	3665						
6441	3322	6450	2428	6452	2991	6808	3405	7660	3670						
6441	3323	6450	2451	6452	3012	6808	3406	7660	3706						
6441	3332	6450	2645	6452	3334	6808	3407	7660	3707						
6441	3333	6450	2668	6452	3335	6808	3408	7661	3666						
6441	3843	6450	2685	6452	3336	6808	3409	7661	3671						

USING ENTRY NO., SEE APPENDIX A FOR TABLE ENTRY

APPENDIX C

ENTITY AXIS MULTIPLE CAUSE CODES WHICH MAY BE CHANGED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

ENTRY																			
CODE NO.																			
0029	0001	0119	0824	0119	2970	0361	0065	0381	0114	0389	0158	0799	0248	0970	0806	0970	2302		
0039	0002	0119	0829	0119	3413	0361	0066	0381	0115	0389	0159	0799	2107	0909	0249	0970	0812	0970	2313
0039	0003	0119	0832	0119	3414	0361	0062	0381	0116	0389	0160	0819	0202	0909	0250	0970	0817	0970	2408
0039	0006	0119	0836	0119	3415	0361	0067	0381	3022	0389	0161	0839	0203	0909	0251	0970	0826	0970	2430
0049	0004	0119	0842	0119	3416	0369	0067	0381	3038	0389	0162	0840	0204	0909	0255	0970	0830	0970	2459
0059	0003	0119	0850	0119	3417	0369	0068	0381	3054	0389	0163	0840	0204	0909	0267	0970	0834	0970	2464
0059	0005	0119	0851	0119	3418	0369	0063	0381	3070	0389	0164	0840	0205	0909	0591	0970	0838	0970	2467
0059	0006	0119	0852	0119	3419	0369	0060	0381	3101	0389	0165	0840	0206	0909	0825	0970	0839	0970	2499
0059	0007	0119	0853	0119	3420	0369	0811	0381	3117	0389	0166	0840	0207	0909	0833	0970	0844	0970	2508
0069	0008	0119	0891	0119	3421	0369	0837	0381	3154	0389	3022	0840	0208	0909	0843	0970	0846	0970	2516
0069	0009	0119	0894	0119	3436	0369	1366	0381	3170	0389	3038	0840	0209	0909	2069	0970	0848	0970	2529
0069	2506	0119	0897	0119	3451	0369	1368	0381	3197	0389	3054	0840	0214	0909	2507	0970	0854	0970	2532
0083	0010	0119	0901	0119	3458	0369	1396	0381	3214	0389	3070	0840	0219	0909	3424	0970	0857	0970	2534
0089	0011	0119	0902	0119	3460	0369	1411	0381	3241	0389	3101	0840	0224	0909	3476	0970	0859	0970	2552
0089	0012	0119	0903	0119	3463	0369	1427	0381	3257	0389	3117	0841	0205	0909	3480	0970	0873	0970	2568
0089	2110	0119	0904	0119	3466	0369	3452	0381	3293	0389	3154	0841	0209	0909	3509	0970	0874	0970	2583
0090	0013	0119	0907	0119	3470	037	0069	0381	3309	0389	3170	0841	0210	0909	3514	0970	0877	0970	2625
0090	0014	0119	0910	0119	3475	037	0070	0381	3346	0389	3197	0841	0210	0909	3519	0970	0879	0970	2647
0090	2111	0119	2074	0119	3479	037	0071	0381	3362	0389	3214	0841	0211	0909	3524	0970	0881	0970	2718
0091	0015	0119	2077	0119	3508	037	0072	0382	0117	0389	3241	0841	0212	0909	3529	0970	0882	0970	2738
0091	0016	0119	2080	0119	3513	037	0073	0382	0118	0389	3257	0841	0213	0909	3534	0970	0885	0970	2758
0091	2111	0119	2083	0119	3518	037	0074	0382	0119	0389	3293	0841	0215	0909	3539	0970	0888	0970	2764
0092	0017	0119	2088	0119	3523	037	0075	0382	0120	0389	3309	0841	0220	0909	3544	0970	0914	0970	2768
0092	0018	0119	2092	0119	3528	037	0076	0382	0121	0389	3346	0841	0224	0909	3549	0970	0916	0970	2789
0092	2111	0119	2093	0119	3533	037	0077	0382	0122	0389	3362	0842	0206	0909	3554	0970	0918	0970	2791
0099	0019	0119	2161	0119	3538	037	0078	0382	0123	0390	0167	0842	0211	0909	3614	0970	1064	0970	2794
0099	0020	0119	2166	0119	3543	037	0079	0382	0124	0390	0168	0842	0214	0909	3623	0970	1092	0970	2801
0099	2111	0119	2169	0119	3548	037	0080	0382	0125	0390	0169	0842	0215	0909	3633	0970	1116	0970	2804
0110	0021	0119	2172	0119	3553	037	0081	0382	0126	0390	0170	0842	0216	0909	3787	0970	1329	0970	2816
0110	0022	0119	2184	0120	0037	037	0082	0382	0127	0390	0171	0842	0216	0909	3816	0970	1345	0970	2820
0110	2185	0119	2185	0120	2193	037	0083	0382	0128	0390	0172	0842	0217	0910	0242	0970	1389	0970	2823
0110	2193	0119	2190	0120	2194	037	0084	0382	0129	0390	0173	0842	0218	0910	0243	0970	1398	0970	2844
0110	2194	0119	2193	0120	2195	037	3022	0382	0130	0390	0174	0842	0221	0912	0244	0970	1413	0970	2865
0110	2195	0119	2194	0120	2196	037	3038	0382	0131	0390	0175	0842	0224	0919	0245	0970	1429	0970	2890
0110	2196	0119	2195	0121	0038	037	3054	0382	0132	0390	0176	0843	0207	0930	0246	0970	1450	0970	2915
0111	0023	0119	2196	0121	2193	037	3070	0382	0133	0390	0177	0843	0212	0930	0247	0970	1453	0970	2920
0111	0024	0119	2312	0121	2194	037	3101	0382	0146	0390	0178	0843	0217	0939	0238	0970	1474	0970	2949
0111	2185	0119	2318	0121	2195	037	3117	0382	3022	0390	0179	0843	0219	0939	0248	0970	1495	0970	2971
0111	2193	0119	2319	0121	2196	037	3154	0382	3038	0390	0180	0843	0220	0939	1848	0970	1506	0970	2972
0111	2194	0119	2322	0122	0039	037	3170	0382	3054	0390	0181	0843	0221	0940	0239	0970	1517	0970	3016
0111	2195	0119	2325	0122	0040	037	3197	0382	3070	0390	0182	0843	0222	0940	0249	0970	1528	0970	3422
0111	2196	0119	2326	0122	2193	037	3214	0382	3101	0390	3022	0843	0222	0941	0240	0970	1539	0970	3426
0112	0025	0119	2404	0122	2194	037	3241	0382	3117	0390	3038	0843	0223	0941	0250	0970	1550	0970	3428
0112	0026	0119	2406	0122	2195	037	3257	0382	3154	0390	3054	0843	0224	0949	0241	0970	1561	0970	3437
0112	2185	0119	2407	0122	2196	037	3293	0382	3170	0390	3070	0844	0208	0949	0251	0970	1585	0970	3445
0112	2193	0119	2429	0123	0041	037	3309	0382	3197	0390	3101	0844	0213	0949	0252	0970	1610	0970	3448
0112	2194	0119	2455	0123	2193	037	3346	0382	3214	0390	3117	0844	0218	0949	0253	0970	1640	0970	3461
0112	2195	0119	2457	0123	2194	037	3362	0382	3241	0390	3154	0844	0223	0949	0254	0970	1661	0970	3464
0112	2196	0119	2458	0123	2195	0380	0085	0382	3257	0390	3170	0844	0224	0949	0736	0970	1685	0970	3467
0113	0027	0119	2462	0123	2196	0380	0086	0382	3293	0390	3197	0849	0225	0949	0763	0970	1705	0970	3471
0113	0028	0119	2463	0129	0042	0380	0087	0382	3309	0390	3214	0859	0226	0949	3789	0970	1742	0970	3477
0113	0029	0119	2466	0129	2193	0380	0088	0382	3346	0390	3241	0869	0227	095	0255	0970	1760	0970	3481
0113	2185	0119	2515	0129	2194	0380	0089	0382	3362	0390	3257	0869	0228	0970	0184	0970	1780	0970	3485
0113	2193	0119	2582	0129	2195	0380	0090	0388	0134	0390	3293	0869	0229	0970	0246	0970	1801	0970	3487
0113	2194	0119	2609	0129	2196	0380	0091	0388	0135	0390	3309	0869	0230	0970	0256	0970	1825	0970	3489
0113	2195	0119	2624	0159	0043	0380	0092	0388	0136	0390	3346	0869	0666	0970	0257	0970	1830	0970	3491
0113	2196	0119	2646	0169	0044	0380	0093	0388	0137	0390	3362	0869	0759	0970	0258	0970	1835	0970	3493
0114	0030	0119	2669	0209	0045	0380	0094	0388	0138	043	0183	0869	0760	0970	0269	0970	1840	0970	3495
0114	0031	0119	2686	0239	0046	0380	0095	0388	0139	043	0184	0869	0762	0970	0431	0970	1846	0970	3497
0114	2185	0119	2703	0269	0047	0380	0096	0388	0140	043	0185	0869	1365	0970	0440	0970	1849	0970	3499
0114	2193	0119	2704	0319	0048	0380	0097	0388	0141	043	0186	0869	1367	0970	0503	0970	1851	0970	3501
0114	2194	0119	2737	035	0049	0380	0098	0388	0142	043	0187	0869	1369	0970	0508	0970	1853	0970	3503
0114	2195	0119	2760	035	0050	0380	0099	0388	0143	043	0188	0869	1380	0970	0510	0970	1854	0970	3505
0114	2196	0119	2763	035	0051	0380	0100	0388	0144	043	0708	0869	1388	0970	0515	0970	1857	0970	3510
0115	0032	0119	2767	035	0052	0380	3022	0388	0145	043	0709	0869	1397	0970	0537	0970	1858	0970	3515
0115	003																		

APPENDIX C

ENTITY AXIS MULTIPLE CAUSE CODES WHICH MAY BE CHANGED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

ENTRY NO.	ENTRY CODE																		
0979	0432	0979	1855	0979	3506	0989	3018	1209	0333	1962	0403	235	0468	2589	0607	2859	0583	3032	2503
0979	0441	0979	1859	0979	3511	0989	3019	1209	0334	1962	0404	235	0469	2609	0527	2859	3087	3032	2513
0979	0504	0979	1860	0979	3516	0989	3425	1209	0335	1962	0405	235	0470	2609	0528	2859	3399	3032	2518
0979	0509	0979	1973	0979	3521	0989	3431	1209	0336	1962	0405	235	0522	2609	0890	2859	3402	3039	0603
0979	0511	0979	1976	0979	3526	0989	3432	1209	0337	1962	0406	2369	0471	2639	0529	2859	3430	3039	0610
0979	0516	0979	1977	0979	3531	0989	3447	1209	0338	1962	0409	2369	0472	2659	0530	2869	3084	3039	0643
0979	0538	0979	1995	0979	3536	0989	3450	1229	0339	1962	0412	2369	0473	2669	0531	2871	0584	3039	0644
0979	0544	0979	2013	0979	3541	0989	3453	1233	0340	1963	0403	2373	0474	268	0532	2871	3403	3039	0645
0979	0577	0979	2031	0979	3546	0989	3457	1233	0341	1963	0404	2373	0475	2709	0533	2891	0585	3039	0646
0979	0586	0979	2057	0979	3551	0989	3459	1259	0342	1963	0405	2381	0399	2719	0534	2891	0586	3039	0647
0979	0589	0979	2071	0979	3556	0989	3473	1269	0343	1963	0406	2381	0451	2732	0535	2891	0587	3039	0648
0979	0593	0979	2096	0979	3559	0989	3507	1279	0344	1963	0406	2381	0476	2732	0575	2892	0588	3039	0649
0979	0596	0979	2160	0979	3561	0989	3512	1289	0345	1963	0410	2381	0477	2739	0536	2892	0589	3039	2497
0979	0599	0979	2163	0979	3580	0989	3517	129	0346	1963	0412	2381	0478	274	0537	2892	0590	3039	2503
0979	0601	0979	2174	0979	3587	0989	3522	129	0347	1964	0403	2381	0479	274	0538	2893	0591	3039	2514
0979	0669	0979	2179	0979	3791	0989	3527	1309	0348	1964	0404	2384	0480	280	0539	2893	0592	3039	2519
0979	0689	0979	2181	0979	3794	0989	3532	1309	0349	1964	0405	2384	0481	280	0540	2893	0593	3049	0650
0979	0691	0979	2183	0979	3796	0989	3537	1309	0350	1964	0406	2391	0482	280	0541	2893	0594	3099	0611
0979	0693	0979	2187	0979	3804	0989	3542	1309	0351	1964	0407	2391	0483	280	0542	2894	0595	3099	0651
0979	0699	0979	2207	0979	3818	0989	3547	1309	0352	1964	0408	2391	0484	280	3085	2894	0596	3150	0652
0979	0712	0979	2232	0979	3831	0989	3552	1309	0353	1964	0409	2391	0523	280	3397	2895	0597	3158	0653
0979	0717	0979	2256	0989	0266	0989	3557	1309	0354	1964	0410	2400	0485	280	3400	2895	0598	3159	0654
0979	0728	0979	2259	0989	0433	0989	3630	1309	0355	1964	0411	2400	0495	2810	0543	2895	0599	3200	0655
0979	0733	0979	2262	0989	0587	0999	0267	1309	0356	1964	0412	2401	0486	2810	0544	2899	0600	3201	0656
0979	0738	0979	2264	0989	0590	1009	0190	1309	0357	1967	0403	2401	0495	2810	0545	2899	0601	3201	0657
0979	0746	0979	2266	0989	0594	1009	0197	1309	0358	1967	0404	2409	0487	2810	0546	2949	0525	3208	0658
0979	0748	0979	2268	0989	0670	1009	0268	1309	0359	1967	0405	2409	0488	2810	0547	2949	0602	3209	0666
0979	0750	0979	2270	0989	0814	1027	0269	1400	0360	1967	0406	2409	0489	2810	0548	2949	0603	3209	0668
0979	0752	0979	2274	0989	0821	1027	0270	1400	0361	1967	0411	2409	0495	2810	0549	2949	0604	3209	0628
0979	0754	0979	2285	0989	0828	1029	0271	1401	0360	1967	0412	2410	0490	2810	3086	2949	0620	3209	0659
0979	0756	0979	2298	0989	1065	1029	0272	1401	0361	1978	0413	2410	0496	2810	3386	2949	0627	3209	0660
0979	0758	0979	2303	0989	1117	1029	0273	1409	0362	1990	0414	2411	0491	2810	3395	2949	0638	3209	0661
0979	0764	0979	2314	0989	1399	1029	0274	1413	0363	1990	0415	2411	0496	2810	3398	2949	0645	3209	0662
0979	0774	0979	2409	0989	1415	1031	0275	1419	0364	1990	0416	2419	0492	2810	3401	2949	3861	3209	0663
0979	0783	0979	2431	0989	1430	1031	0276	1429	0365	1991	0417	2419	0493	2811	0550	2959	0605	3209	0664
0979	0798	0979	2460	0989	1587	1032	0275	1439	0366	1991	0418	2419	0494	2811	0551	2969	0606	3209	0665
0979	0807	0979	2465	0989	1612	1032	0276	1459	0367	1991	0419	2419	0496	2811	0552	299	0526	3209	0666
0979	0813	0979	2468	0989	2410	1039	0277	1469	0368	1991	0420	2422	0485	2811	0553	299	0607	3209	0667
0979	0818	0979	2500	0989	2432	1039	0278	1489	0369	2049	0421	2422	0486	2811	0554	299	0608	3209	0668
0979	0827	0979	2509	0989	2456	1039	0279	149	0370	2049	0422	2422	0489	2811	3086	299	0609	3209	0669
0979	0831	0979	2517	0989	2461	1039	0280	1519	0371	2059	0423	2422	0490	2811	3386	299	0610	3209	0670
0979	0835	0979	2530	0989	2510	1039	0281	1522	0372	2059	0424	2422	0491	2811	3395	299	0611	3209	0671
0979	0840	0979	2533	0989	2536	1039	0282	1529	0373	2069	0425	2422	0494	2811	3398	299	0612	3209	0672
0979	0841	0979	2535	0989	2537	1039	0283	1533	0374	2069	0426	2422	0495	2811	3401	299	0613	3209	0673
0979	0845	0979	2553	0989	2570	1039	0284	1533	0378	2079	0427	2422	0496	2812	0555	299	0614	3209	2112
0979	0847	0979	2569	0989	2571	1039	0285	1538	0375	2109	0428	2422	0497	2812	0556	299	0621	321	0674
0979	0849	0979	2584	0989	2585	1039	0286	1538	0376	2119	0429	2422	3792	2812	0557	299	0628	321	3387
0979	0855	0979	2626	0989	2586	1039	0287	1538	0379	2129	0430	2450	0498	2812	0558	299	0639	322	0675
0979	0858	0979	2648	0989	2627	1039	0288	1539	0377	2130	0431	2451	0499	2812	0559	299	0646	323	0676
0979	0860	0979	2719	0989	2628	1039	0289	1541	0374	2130	0432	2459	0500	2812	3086	299	0651	323	0677
0979	0875	0979	2739	0989	2649	1039	0290	1541	0376	2130	0433	2459	0501	2812	3386	299	0687	323	0678
0979	0876	0979	2759	0989	2650	1039	0291	1541	0378	2169	0434	2459	0502	2812	3395	299	3862	323	0679
0979	0878	0979	2765	0989	2735	1039	0292	1541	0379	2201	0435	246	0503	2812	3398	3009	0615	323	0680
0979	0880	0979	2769	0989	2736	1039	0293	1541	0380	2219	0436	246	0504	2812	3401	3019	0616	323	0681
0979	0883	0979	2790	0989	2740	1039	0294	1541	0391	2219	0437	2509	0505	2813	0560	3029	0617	323	0682
0979	0884	0979	2792	0989	2741	1179	0295	1569	0381	2219	0438	2509	0506	2813	0561	3030	0603	323	0683
0979	0886	0979	2795	0989	2761	1179	0296	1569	0382	2219	0439	2509	0507	2813	0562	3030	0610	323	0684
0979	0889	0979	2802	0989	2762	1209	0297	1579	0383	2220	0440	2509	3788	2813	0563	3030	0618	323	0685
0979	0915	0979	2805	0989	2766	1209	0298	159	0384	2220	0441	2509	3834	2813	0564	3030	0619	323	0686
0979	0917	0979	2817	0989	2770	1209	0299	1609	0385	2229	0442	2539	0508	2813	3086	3030	0620	323	2113
0979	0919	0979	2821	0989	2771	1209	0300	1619	0386	2239	0443	2539	0509	2813	3386	3030	0621	3339	0612
0979	1330	0979	2824	0989	2796	1209	0301	1639	0387	2259	0444	254	0510	2813	3395	3030	0622	3339	0687
0979	1346	0979	2845	0989	2797	1209	0302	1709	0388	2259	0445	254	0511	2813	3398	3030	0623	341	0688
0979	1353	0979	2866	0989	2799	1209	0303	1719	0389	2259	0446	2550	0512	2813	3401	3030	0624	341	0689
0979	1390	0979	2891	0989	2800	1209	0304	1729	0390	2259	0447	2550	0513	2814	0565	3030	2497	342	0690
0979	1414	0979	2916	0989	2806	1209	0305	1736	0380	2259	0448	25							

APPENDIX C

ENTITY AXIS MULTIPLE CAUSE CODES WHICH MAY BE CHANGED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

ENTRY NO.	ENTRY CODE																		
3440	0708	350	0784	3759	0855	390	0925	3910	0974	3911	1405	3929	1623	3959	1108	4000	1171	4001	1625
3440	0709	350	3733	3759	0856	390	0926	3910	0975	3911	1420	393	0925	3959	1109	4000	1172	4001	1637
3440	0710	3550	0785	3775	0857	390	0927	3910	0976	3911	1421	393	0926	3960	0935	4000	1173	4001	1643
3440	0711	3550	0786	3775	0858	390	0928	3910	0977	3911	1437	393	0996	3960	0936	4000	1174	4001	1658
3440	0712	3550	0787	3776	0859	390	0929	3910	0978	3911	1438	393	1020	3960	0969	4000	1175	4001	1664
3441	0186	3550	0788	3776	0860	390	0930	3910	0979	3911	1439	393	1050	3960	0996	4000	1176	4001	1682
3441	0187	3550	0789	3779	0861	390	0931	3910	0980	3911	1459	393	1051	3960	1020	4000	1177	4001	1688
3441	0713	3550	0790	3779	0862	390	0932	3910	0981	3911	1460	393	1052	3960	1110	4000	1178	4001	1702
3441	0714	3550	3118	3779	0863	390	0933	3910	0982	3911	1480	393	1053	3960	1111	4000	1287	4001	1708
3441	0715	3550	3142	3779	0864	390	0934	3910	0983	3911	1481	393	1054	3960	1112	4000	1301	4001	1722
3441	0716	3550	3171	3779	0865	390	0935	3910	0984	3911	1569	3940	0927	3960	1113	4000	1318	4001	1726
3441	0717	3550	3258	3779	0866	390	0936	3910	0985	3911	1570	3940	0928	3960	1114	4000	1331	4001	1740
3441	0718	3550	3310	3779	0867	390	0937	3910	0986	3911	1571	3940	0969	3960	1115	4000	1337	4001	1745
3441	0719	3550	3363	3779	0868	390	0938	3910	0987	3911	1572	3940	0996	3969	0937	4000	1347	4001	1757
3441	0720	3551	0791	3779	0869	390	0939	3910	0988	3911	1593	3940	1020	3969	0938	4000	1354	4001	1763
3441	0721	3551	0792	3779	0870	390	0940	3910	0989	3911	1594	3940	1055	3969	0969	4000	1359	4001	1777
3441	0722	3551	0793	3779	0871	390	0941	3910	0990	3911	1618	3940	1056	3969	0996	4000	1464	4001	1783
3441	0723	3551	0794	3779	0872	390	0942	3910	0991	3911	1619	3940	1057	3969	1020	4000	1485	4001	1796
3442	0186	3551	0795	3782	0873	390	0943	3910	0992	3912	0967	3940	1058	3969	1063	4000	1497	4001	1804
3442	0187	3551	0796	3782	0874	390	0944	3910	0993	3912	0994	3940	1059	3969	1091	4000	1508	4001	2539
3442	0724	3551	3118	3782	0875	390	0945	3910	1017	3912	1017	3940	1060	3969	1116	4000	1519	4001	2555
3442	0725	3551	3142	3782	0876	390	0946	3910	1042	3912	1018	3940	1061	3969	1117	4000	1530	4001	2573
3442	0726	3551	3171	3783	0877	390	0947	3910	1057	3912	1019	3940	1062	3969	1118	4000	1541	4001	2588
3442	0727	3551	3258	3783	0878	390	0948	3910	1068	3912	1020	3940	1063	3969	1119	4000	1552	4001	2612
3442	0728	3551	3310	3784	0879	390	0949	3910	1085	3912	1021	3940	1089	3969	1120	4000	1575	4001	2721
3443	0186	3551	3363	3784	0880	390	0950	3910	1095	3912	1022	3940	1099	3969	1121	4000	1599	4001	3847
3443	0187	3559	0797	3786	0881	390	0951	3910	1112	3912	1023	3940	1124	3969	1122	4000	1624	4002	1179
3443	0729	3559	0798	3786	0882	390	0952	3910	1120	3912	1024	3949	0929	3969	1123	4000	1636	4002	1200
3443	0730	3559	0799	3786	0883	390	0953	3910	1135	3912	1025	3949	0930	3969	1124	4000	1642	4002	1201
3443	0731	3559	0800	3786	0884	390	0954	3910	1147	3912	1026	3949	0969	3969	1125	4000	1657	4002	1202
3443	0732	3559	0801	3788	0885	390	0955	3910	1155	3912	1027	3949	0996	3969	1126	4000	1663	4002	1203
3443	0733	3559	0802	3788	0886	390	0956	3910	1382	3912	1028	3949	1020	3969	1127	4000	1681	4002	1204
3449	0186	3559	0803	3789	0528	390	0957	3910	1393	3912	1029	3949	1064	3969	1128	4000	1687	4002	1205
3449	0187	3559	0804	3789	0887	390	0958	3910	1402	3912	1030	3949	1065	3969	1129	4000	1701	4002	1206
3449	0252	3559	3118	3789	0888	390	0959	3910	1403	3912	1031	3949	1066	3969	1130	4000	1707	4002	1207
3449	0734	3559	3142	3789	0889	390	0960	3910	1418	3912	1032	3949	1067	3969	1131	4000	1721	4002	1208
3449	0735	3559	3171	3789	0890	390	0961	3910	1419	3912	1033	3949	1068	3969	1132	4000	1725	4002	1209
3449	0736	3559	3258	3810	0891	390	0962	3910	1434	3912	1034	3949	1069	3970	0939	4000	1739	4002	1210
3449	0737	3559	3310	3810	0892	390	0963	3910	1435	3912	1035	3949	1070	3970	0940	4000	1744	4002	1211
3449	0738	3559	3363	3810	0893	390	0964	3910	1436	3912	1042	3949	1071	3970	0969	4000	1756	4002	1212
3449	0739	3570	0805	3810	0905	390	0965	3910	1457	3912	1053	3949	1072	3970	0996	4000	1762	4002	1213
3449	0740	3570	3734	3810	0911	390	1050	3910	1458	3912	1059	3949	1073	3970	1020	4000	1776	4002	1214
3449	0741	3579	0806	3811	0894	390	1051	3910	1478	3912	1070	3949	1074	3970	1133	4000	1782	4002	1215
3449	0742	3579	0807	3811	0895	390	1055	3910	1479	3912	1087	3949	1075	3970	1134	4000	1795	4002	1216
3449	0743	3579	0808	3811	0896	390	1056	3910	1565	3912	1097	3949	1076	3970	1135	4000	1803	4002	1218
3449	0744	3579	0809	3811	0908	390	1066	3910	1566	3912	1114	3949	1077	3970	1136	4000	2538	4002	1288
3450	0745	3579	3735	3811	0912	390	1067	3910	1567	3912	1122	3949	1078	3970	1137	4000	2554	4002	1302
3450	0746	360	0810	3819	0897	390	1083	3910	1568	3912	1137	3949	1079	3970	1138	4000	2572	4002	1318
3451	0747	360	0811	3819	0898	390	1084	3910	1590	3912	1149	3949	1080	3970	1139	4000	2587	4002	1331
3451	0748	360	0812	3819	0899	390	1093	3910	1591	3912	1157	3949	1081	3970	1140	4000	2611	4002	1337
3452	0749	360	0813	3819	0900	390	1094	3910	1592	3912	1406	3949	1082	3970	1141	4000	2720	4002	1347
3452	0750	360	0814	3819	0906	390	1110	3910	1615	3912	1407	3949	1089	3970	1142	4000	3807	4002	1354
3453	0751	360	0815	3819	0909	390	1111	3910	1616	3912	1422	3949	1100	3970	1143	4000	3846	4002	1359
3453	0752	361	0816	3819	0913	390	1118	3910	1617	3912	1423	3950	0931	3970	1144	4001	1179	4002	1466
3454	0753	361	0817	3820	0901	390	1119	3911	0966	3912	1440	3950	0932	3979	0941	4001	1180	4002	1487
3454	0754	361	0818	3821	0902	390	1133	3911	0993	3912	1461	3950	0969	3979	0942	4001	1181	4002	1499
3455	0755	3630	0819	3829	0903	390	1134	3911	0994	3912	1462	3950	0996	3979	0969	4001	1182	4002	1510
3455	0756	3639	0820	3830	0892	390	1145	3911	0995	3912	1482	3950	1020	3979	0996	4001	1183	4002	1521
3459	0757	3639	0821	3830	0898	390	1146	3911	0996	3912	1483	3950	1061	3979	1020	4001	1184	4002	1532
3459	0758	3639	0822	3830	0904	390	1152	3911	0997	3912	1595	3950	1073	3979	1145	4001	1185	4002	1543
3470	0229	3639	0823	3830	0905	390	1153	3911	0998	3912	1596	3950	1083	3979	1146	4001	1186	4002	1554
3470	0759	3639	3439	3830	0906	390	1154	3911	0999	3912	1597	3950	1084	3979	1147	4001	1187	4002	1577
3471	0229	364	0824	3831	0895	390	1370	3911	1000	3912	1620	3950	1085	3979	1148	4001	1188	4002	1601
3471	0760	364	0825	3831	0899	390	1381	3911	1001	3912	1621	3950	1086	3979	1149	4001	1189	4002	1626
3479	0229	364	0826	3831	0907	390	1391	3911	1002	3912	1622	3950	1087	3979	1150	4001	1190	4002	2539
3479	0253	364	0827	3831	0908	390	1392	3911	1003	3919	1036	3950	1088	3979	1151	4001	1191</		

APPENDIX C

ENTITY AXIS MULTIPLE CAUSE CODES WHICH MAY BE CHANGED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

CODE	ENTRY NO.																		
4003	1331	401	1282	403	1331	4124	1229	4240	1406	4270	1458	4273	1513	428	1560	4299	1256	4319	1677
4003	1337	401	1283	403	1337	4124	1242	4240	1407	4270	1459	4273	1514	428	1561	4299	1317	4319	1678
4003	1347	401	1284	403	1347	4124	1253	4240	1408	4270	1460	4273	1515	428	1562	4299	1609	4319	1679
4003	1354	401	1285	403	1354	4124	1297	4240	1409	4270	1461	4274	0230	428	1563	4299	1610	4319	1680
4003	1359	401	1286	403	1359	4124	1314	4240	1410	4270	1462	4274	1174	428	1564	4299	1611	4319	3388
4003	1467	401	1331	403	1470	4124	1326	4241	0230	4270	1463	4274	1193	428	1565	4299	1612	4319	3606
4003	1488	401	1337	403	1491	4124	1353	4241	0952	4270	1464	4274	1213	428	1566	4299	1613	4319	3608
4003	1500	401	1347	403	1503	4124	1354	4241	0953	4270	1465	4274	1232	428	1567	4299	1614	4320	1175
4003	1511	401	1354	403	1514	4124	1355	4241	0974	4270	1466	4274	1256	428	1568	4299	1615	4320	1196
4003	1522	401	1359	403	1525	4124	1356	4241	0975	4270	1467	4274	1317	428	1569	4299	1616	4320	1232
4003	1533	401	1410	403	1536	4124	1357	4241	1000	4270	1468	4274	1516	428	1570	4299	1617	4320	1681
4003	1544	401	1426	403	1547	4124	1358	4241	1001	4270	1469	4274	1517	428	1571	4299	1618	4320	1682
4003	1555	401	1447	403	1558	4139	1173	4241	1023	4270	1470	4274	1518	428	1572	4299	1619	4320	1683
4003	1578	401	1468	403	1581	4139	1192	4241	1024	4270	1471	4274	1519	428	1573	4299	1620	4320	1684
4003	1602	401	1489	403	1605	4139	1212	4241	1039	4270	1472	4274	1520	428	1574	4299	1621	4320	3388
4003	1627	401	1501	403	1630	4139	1231	4241	1040	4270	3562	4274	1521	428	1575	4299	1622	4329	1175
4003	1638	401	1512	404	1164	4139	1244	4241	1411	4270	3566	4274	1522	428	1576	4299	1623	4329	1196
4003	1644	401	1523	404	1182	4139	1255	4241	1412	4270	3570	4274	1523	428	1577	4299	1624	4329	1232
4003	1659	401	1534	404	1202	4139	1299	4241	1413	4270	3574	4274	1524	428	1578	4299	1625	4329	1262
4003	1665	401	1545	404	1221	4139	1316	4241	1414	4271	0230	4274	1525	428	1579	4299	1626	4329	1685
4003	1683	401	1556	404	1234	4139	1328	4241	1415	4271	0959	4274	1526	428	1580	4299	1627	4329	1686
4003	1689	401	1579	404	1318	4139	1359	4241	1416	4271	0960	4275	0230	428	1581	4299	1628	4329	1687
4003	1703	401	1603	404	1319	4139	1360	4241	1417	4271	0981	4275	1174	428	1582	4299	1629	4329	1688
4003	1709	401	1628	404	1320	4139	1361	4241	1418	4271	0982	4275	1193	428	1583	4299	1630	4329	1689
4003	1723	401	1645	404	1321	4139	1362	4241	1419	4271	1007	4275	1213	428	1822	4299	1631	4329	1690
4003	1727	401	1666	404	1322	4139	1363	4241	1420	4271	1008	4275	1232	428	1827	4299	1632	4329	1691
4003	1741	401	1690	404	1323	4139	1364	4241	1421	4271	1028	4275	1256	428	1832	4299	1633	4329	1692
4003	1746	401	1710	404	1324	420	0230	4241	1422	4271	1029	4275	1317	428	1837	4299	1634	4329	1693
4003	1758	401	1728	404	1325	420	1365	4241	1423	4271	1046	4275	1527	428	1842	4299	1635	4329	1694
4003	1764	401	1747	404	1326	4210	0230	4241	1424	4271	1174	4275	1528	4290	0230	4299	2198	4329	1695
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4003	1784	401	1785	404	1328	4210	1367	4241	1426	4271	1213	4275	1530	4290	0963	4299	3568	4329	1697
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4003	3809	401	2723	404	1347	4219	1368	4249	0955	4271	1317	4275	1533	4290	0989	4299	3811	4329	1710
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4009	1234	401	3119	404	1359	4219	1370	4249	0976	4271	1474	4275	1535	4290	1014	4300	1196	4330	1175
4009	1235	401	3143	4109	1166	4219	1371	4249	0977	4271	1475	4275	1536	4290	1030	4300	1232	4330	1196
4009	1236	401	3172	4109	1184	4219	1372	4249	0978	4271	1476	4275	1537	4290	1031	4300	1636	4330	1212
4009	1237	401	3230	4109	1204	4219	1373	4249	1002	4271	1477	4276	0230	4290	1032	4300	1637	4330	1701
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4009	1239	401	3282	4109	1236	4219	1375	4249	1004	4271	1479	4276	1193	4290	1174	4300	1639	4330	1703
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4009	1241	401	3334	4109	1292	4219	1377	4249	1041	4271	1481	4276	1232	4290	1213	4309	1175	4330	3388
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4009	1243	401	3797	4109	1321	4219	1379	4249	1428	4271	1483	4276	1317	4290	1256	4309	1232	4339	1196
4009	1244	402	1162	4109	1329	422	0230	4249	1429	4271	1484	4276	1538	4290	1317	4309	1258	4339	1212
4009	1305	402	1202	4109	1330	422	0947	4249	1430	4271	1485	4276	1539	4290	1584	4309	1640	4339	1244
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4009	1331	402	1287	4109	1332	422	0997	4249	1432	4271	1487	4276	1541	4290	1586	4309	1642	4339	1706
4009	1337	402	1288	4109	1333	422	1159	4249	1433	4271	1488	4276	1542	4290	1587	4309	1643	4339	1707
4009	1347	402	1289	4109	1334	422	1160	4249	1434	4271	1489	4276	1543	4290	1588	4309	1644	4339	1708
4009	1354	402	1290	4109	1335	422	1380	4249	1435	4271	1490	4276	1544	4290	1589	4309	1645	4339	1709
4009	1359	402	1291	4109	1336	422	1381	4249	1436	4271	1491	4276	1545	4290	1590	4309	1646	4339	1710
401	0718	402	1292	4119	1168	422	1382	4249	1437	4271	1492	4276	1546	4290	1591	4309	1647	4339	1711
401	0739	402	1293	4119	1186	422	1383	4249	1438	4271	1493	4276	1547	4290	1592	4309	1648	4339	1712
401	1245	402	1294	4119	1206	422	1384	4249	1439	4271	3563	4276	1548	4290	1593	4309	1649	4339	1713
401	1246	402	1295	4119	1225	422	1385	4249	1440	4271	3567	4279	0230	4290	1594	4309	1650	4339	1714
401	1247	402	1296	4119	1238	422	1386	4249	1441	4271	3571	4279	1174	4290	1595	4309	1651	4339	1715
401	1248	402	1297	4119	1249	422	1387	4249	1442	4271	3575	4279	1193	4290	1596	4309	1652	4339	1716
401	1249	402	1298	4119	1294	423	0230	4249	1443	4272	0230	4279	1213	4290	1597	4309	1653	4339	1717
401	1250	402	1299	4119	1311	423	0948	4249	1444	4272	1174	4279	1232	4290	1598	4309	1654	4339	1718
401	1251	402	1300	4119	1323	423	0949	4249	1445	4272	1193	4279	1256	4290	1599	4309	1655	4339	1719
401	1252	402	1306	4119	1337	423	0971	4249	1446	4272	1213	4279	1317	4290	1600	4309	1656	4339	1720
401	1253	402	1331	4119	1338	423	1388	4249	1447	4272	1232	4279	1549	4290	1601	4309	3388	4339	3388
401	1254	402	1337	4119	1339	423	1389	425	0230	4272	1256	4279	1550	4290	1602	4310	1175	4340	1175
401	1255	402	1347	4119															

APPENDIX C

ENTITY AXIS MULTIPLE CAUSE CODES WHICH MAY BE CHANGED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

| ENTRY NO. |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 4350 1196 | 4389 1274 | 4440 1880 | 4443 1925 | 4459 1965 | 4519 2019 | 4589 2291 | 470 2126 | 5039 2176 | 5192 2207 | | | | | | | | |
| 4350 1232 | 4389 1801 | 4440 1881 | 4443 1926 | 4459 1966 | 4519 2020 | 4589 2304 | 470 2128 | 507 2177 | 5192 2208 | | | | | | | | |
| 4350 1739 | 4389 1802 | 4440 3023 | 4443 1927 | 4459 1967 | 4519 2021 | 4589 2305 | 470 2130 | 5080 2178 | 5192 2209 | | | | | | | | |
| 4350 1740 | 4389 1803 | 4440 3039 | 4443 1928 | 4459 1968 | 4519 2022 | 4589 2308 | 470 2132 | 5080 2179 | 5192 2210 | | | | | | | | |
| 4350 1741 | 4389 1804 | 4440 3055 | 4443 1929 | 4459 1969 | 4519 2023 | 4589 3404 | 470 2134 | 5083 2180 | 5192 2211 | | | | | | | | |
| 4359 1175 | 4389 1805 | 4440 3071 | 4443 3023 | 4459 1970 | 4519 2024 | 4589 3442 | 470 2136 | 5083 2181 | 5192 2212 | | | | | | | | |
| 4359 1196 | 4389 1806 | 4440 3102 | 4443 3039 | 4459 1971 | 4519 2025 | 4589 3821 | 470 2138 | 5089 2182 | 5192 2213 | | | | | | | | |
| 4359 1232 | 4389 1807 | 4440 3120 | 4443 3055 | 4459 2327 | 4519 2026 | 460 2068 | 470 2140 | 5089 2183 | 5192 2214 | | | | | | | | |
| 4359 1268 | 4389 1808 | 4440 3155 | 4443 3071 | 4459 2330 | 4519 2027 | 460 2069 | 470 2142 | 510 2184 | 5192 2215 | | | | | | | | |
| 4359 1742 | 4389 1809 | 4440 3173 | 4443 3102 | 4459 2333 | 4519 2028 | 460 2070 | 470 2144 | 5110 0021 | 5192 2216 | | | | | | | | |
| 4359 1743 | 4389 1810 | 4440 3173 | 4443 3120 | 4459 2336 | 4519 2029 | 460 2071 | 470 2147 | 5110 0023 | 5192 2217 | | | | | | | | |
| 4359 1744 | 4389 1811 | 4440 3215 | 4443 3155 | 4459 2340 | 4519 2034 | 460 2072 | 470 2151 | 5110 0025 | 5192 2218 | | | | | | | | |
| 4359 1745 | 4389 1812 | 4440 3242 | 4443 3173 | 4459 2343 | 4519 2040 | 460 2073 | 470 2167 | 5110 0028 | 5192 2219 | | | | | | | | |
| 4359 1746 | 4389 1813 | 4440 3261 | 4443 3198 | 4459 2346 | 4519 2056 | 460 2114 | 470 2170 | 5110 0030 | 5192 2220 | | | | | | | | |
| 4359 1747 | 4389 1814 | 4440 3294 | 4443 3215 | 4469 1972 | 4519 2072 | 4610 2074 | 470 2175 | 5110 0032 | 5192 2221 | | | | | | | | |
| 4359 1748 | 4389 1815 | 4440 3312 | 4443 3242 | 4469 1973 | 4519 2103 | 4610 2075 | 470 2188 | 5110 0035 | 5192 2222 | | | | | | | | |
| 4359 1749 | 4389 1816 | 4440 3347 | 4443 3260 | 447 1974 | 4519 2121 | 4610 2076 | 470 2191 | 5110 2119 | 5192 2223 | | | | | | | | |
| 4359 1750 | 4389 1817 | 4440 3365 | 4443 3294 | 447 1975 | 4519 2156 | 4610 2114 | 470 2199 | 5110 2185 | 5193 2224 | | | | | | | | |
| 4359 1751 | 4389 1818 | 4441 1882 | 4443 3312 | 447 1976 | 4519 2174 | 4611 2077 | 470 2216 | 5110 2186 | 5193 2225 | | | | | | | | |
| 4359 1752 | 4389 1819 | 4441 1883 | 4443 3347 | 447 1977 | 4519 2199 | 4611 2078 | 470 2245 | 5110 2187 | 5193 2226 | | | | | | | | |
| 4359 1753 | 4389 1820 | 4441 1884 | 4443 3365 | 450 1978 | 4519 2216 | 4611 2079 | 470 2405 | 5110 2188 | 5199 2227 | | | | | | | | |
| 4359 1754 | 4389 1821 | 4441 1885 | 4444 1930 | 450 1979 | 4519 2243 | 4611 2114 | 470 3819 | 5110 2189 | 5199 2228 | | | | | | | | |
| 4359 1755 | 4389 3389 | 4441 1886 | 4444 1931 | 450 1980 | 4519 2261 | 4619 2080 | 470 3822 | 5112 2190 | 5199 2229 | | | | | | | | |
| 4360 1175 | 4400 1583 | 4441 1887 | 4444 1932 | 450 1981 | 4519 2295 | 4619 2081 | 480 2116 | 514 2120 | 5199 2230 | | | | | | | | |
| 4360 1196 | 4400 1822 | 4441 1888 | 4444 1933 | 450 1982 | 4519 2313 | 4619 2082 | 480 2126 | 514 2191 | 5199 2231 | | | | | | | | |
| 4360 1232 | 4400 1823 | 4441 1889 | 4444 1934 | 450 1983 | 4519 2348 | 4619 2114 | 480 2127 | 514 2192 | 5199 2232 | | | | | | | | |
| 4360 1756 | 4400 1824 | 4441 1890 | 4444 1935 | 450 1984 | 4519 2366 | 462 2083 | 481 2116 | 5150 0022 | 5199 2233 | | | | | | | | |
| 4360 1757 | 4400 1963 | 4441 1891 | 4444 1936 | 450 1985 | 452 2030 | 462 2084 | 481 2128 | 5150 0024 | 5199 2234 | | | | | | | | |
| 4360 1758 | 4401 1583 | 4441 1892 | 4444 1937 | 450 1986 | 452 2031 | 462 2085 | 481 2129 | 5150 0026 | 5199 2235 | | | | | | | | |
| 4360 1759 | 4401 1825 | 4441 1893 | 4444 1938 | 450 1987 | 453 2032 | 462 2086 | 4820 2116 | 5150 0029 | 5199 2236 | | | | | | | | |
| 4360 3389 | 4401 1826 | 4441 1894 | 4444 1939 | 450 1988 | 453 2033 | 462 2087 | 4820 2130 | 5150 0031 | 5199 2237 | | | | | | | | |
| 4369 1175 | 4401 1827 | 4441 1895 | 4444 1940 | 450 1989 | 453 2034 | 462 2114 | 4820 2131 | 5150 0033 | 5199 2238 | | | | | | | | |
| 4369 1196 | 4401 1828 | 4441 1896 | 4444 1941 | 450 1990 | 453 2035 | 462 2164 | 4821 2116 | 5150 0036 | 5199 2239 | | | | | | | | |
| 4369 1232 | 4401 1829 | 4441 1897 | 4444 1942 | 450 1991 | 453 2036 | 463 2088 | 4821 2132 | 5150 0037 | 5199 2240 | | | | | | | | |
| 4369 1270 | 4401 1963 | 4441 3023 | 4444 1943 | 450 1992 | 453 2037 | 463 2089 | 4821 2133 | 5150 0038 | 5199 2241 | | | | | | | | |
| 4369 1760 | 4402 1583 | 4441 3039 | 4444 1944 | 450 1993 | 453 2038 | 463 2090 | 4822 2116 | 5150 0040 | 5199 2242 | | | | | | | | |
| 4369 1761 | 4402 1830 | 4441 3055 | 4444 1945 | 450 3024 | 453 2039 | 463 2091 | 4822 2134 | 5150 0041 | 5199 2243 | | | | | | | | |
| 4369 1762 | 4402 1831 | 4441 3071 | 4444 3023 | 450 3040 | 453 2040 | 463 2114 | 4822 2135 | 5150 0042 | 5199 2244 | | | | | | | | |
| 4369 1763 | 4402 1832 | 4441 3102 | 4444 3039 | 450 3056 | 453 2041 | 464 2092 | 4823 2116 | 5150 2193 | 5199 2245 | | | | | | | | |
| 4369 1764 | 4402 1833 | 4441 3120 | 4444 3055 | 450 3072 | 453 2042 | 464 2093 | 4823 2136 | 5151 0022 | 5199 2246 | | | | | | | | |
| 4369 1765 | 4402 1834 | 4441 3155 | 4444 3071 | 450 3103 | 453 2043 | 464 2094 | 4823 2137 | 5151 0024 | 5199 2247 | | | | | | | | |
| 4369 1766 | 4402 1963 | 4441 3173 | 4444 3102 | 450 3121 | 453 2044 | 464 2095 | 4829 2116 | 5151 0026 | 5199 2248 | | | | | | | | |
| 4369 1767 | 4403 1583 | 4441 3198 | 4444 3120 | 450 3156 | 453 2045 | 464 2096 | 4829 2138 | 5151 0029 | 5200 2249 | | | | | | | | |
| 4369 1768 | 4403 1835 | 4441 3215 | 4444 3155 | 450 3174 | 453 2046 | 464 2097 | 4829 2139 | 5151 0031 | 5201 2250 | | | | | | | | |
| 4369 1769 | 4403 1836 | 4441 3242 | 4444 3173 | 450 3199 | 453 2047 | 464 2098 | 483 2116 | 5151 0033 | 5206 2251 | | | | | | | | |
| 4369 1770 | 4403 1837 | 4441 3260 | 4444 3198 | 450 3216 | 453 2048 | 464 2099 | 483 2140 | 5151 0036 | 5225 2252 | | | | | | | | |
| 4369 1771 | 4403 1838 | 4441 3294 | 4444 3215 | 450 3243 | 453 2049 | 464 2100 | 483 2141 | 5151 0037 | 5244 2253 | | | | | | | | |
| 4369 1772 | 4403 1839 | 4441 3312 | 4444 3242 | 450 3261 | 453 2050 | 464 2101 | 484 2116 | 5151 0038 | 5250 2254 | | | | | | | | |
| 4369 1773 | 4403 1963 | 4441 3347 | 4444 3260 | 450 3295 | 453 3025 | 464 2102 | 484 2142 | 5151 0040 | 5269 2255 | | | | | | | | |
| 4369 1774 | 4409 1583 | 4441 3365 | 4444 3294 | 450 3313 | 453 3041 | 464 2103 | 484 2143 | 5151 0041 | 5269 2256 | | | | | | | | |
| 4369 1775 | 4409 1840 | 4442 1898 | 4444 3312 | 450 3348 | 453 3057 | 464 2114 | 485 2116 | 5151 0042 | 5280 2257 | | | | | | | | |
| 4369 3389 | 4409 1841 | 4442 1899 | 4444 3347 | 450 3366 | 453 3073 | 464 2150 | 485 2144 | 5151 2194 | 5280 3835 | | | | | | | | |
| 4370 1175 | 4409 1842 | 4442 1900 | 4444 3365 | 4510 1994 | 453 3104 | 465 2104 | 485 2145 | 5152 0022 | 5285 2258 | | | | | | | | |
| 4370 1196 | 4409 1843 | 4442 1901 | 4444 1946 | 4510 1995 | 453 3122 | 465 2105 | 486 0017 | 5152 0024 | 5285 2259 | | | | | | | | |
| 4370 1232 | 4409 1844 | 4442 1902 | 4444 1947 | 4510 1996 | 453 3157 | 465 2106 | 486 2116 | 5152 0026 | 5285 2260 | | | | | | | | |
| 4370 1776 | 4409 1845 | 4442 1903 | 4444 1948 | 4510 1997 | 453 3175 | 465 2114 | 486 2146 | 5152 0029 | 5289 2261 | | | | | | | | |
| 4370 1777 | 4409 1963 | 4442 1904 | 4444 1949 | 4510 1998 | 453 3200 | 466 2107 | 486 2147 | 5152 0031 | 5289 2262 | | | | | | | | |
| 4370 1778 | 4410 1846 | 4442 1905 | 4444 1950 | 4510 1999 | 453 3201 | 466 2108 | 486 2148 | 5152 0033 | 5299 2263 | | | | | | | | |
| 4370 1779 | 4410 1847 | 4442 1906 | 4444 1951 | 4510 2000 | 453 3217 | 466 2109 | 486 2149 | 5152 0036 | 5299 2264 | | | | | | | | |
| 4370 3389 | 4411 1848 | 4442 1907 | 4444 1952 | 4510 2001 | 453 3218 | 466 2114 | 490 2100 | 5152 0037 | 5301 2265 | | | | | | | | |
| 4379 1175 | 4411 1849 | 4442 1908 | 4444 1953 | 4510 2002 | 453 3244 | 470 0011 | 490 2117 | 5152 0038 | 5301 2266 | | | | | | | | |
| 4379 1196 | 4411 1850 | 4442 1909 | 4444 1954 | 4510 2003 | 453 3262 | 470 0013 | 490 2150 | 5152 0040 | 5303 2267 | | | | | | | | |
| 4379 1232 | 4412 1851 | 4442 1910 | 4444 1955 | 4510 2004 | 453 3296 | 470 0015 | 490 2151 | 5152 0041 | 5303 2268 | | | | | | | | |
| 4379 1272 | 4412 1852 | 4442 1911 | 4444 1956 | 4510 2005 | 453 3314 | 470 0017 | 490 2152 | 5152 0042 | 5309 2269 | | | | | | | | |
| 4379 1780 | 4419 1853 | 4442 1912 | 4444 1957 | 4510 2006 | 453 3335 | 470 0019 | 490 2153 | 5152 2195 | 5309 2270 | | | | | | | | |
| 4379 1781 | 4419 1854 | 4442 1913 | 4444 1958 | 4510 2007 | 453 3349 | 470 0657 | 490 2154 | 5159 0022 | 5310 2271 | | | | | | | | |
| 4379 1782 | 4419 1855 | 4442 3023 | 4444 1959 | 4510 2008 | 453 3367 | 470 0673 | 490 2155 | 5159 0024 | 5310 2272 | | | | | | | | |
| 4379 1783 | 4419 1856 | 4442 3039 | 4444 1960 | 4510 2009 | 454 2051 | 470 0685 | 491 2156 | 5159 0026 | 5310 2276 | | | | | | | | |
| 4379 1784 | 442 1655 | 4442 3055 | 4444 1961 | 4510 2010 | 454 3435 | 470 2072 | 491 2157 | 5159 0029 | 5310 2287 | | | | | | | | |
| 4379 1785 | 442 1677 | 4442 3071 | 4444 3023 | 4510 2011 | 454 3441 | 470 2075 | 492 2153 | 5159 0031 | 5311 2058 | | | | | | | | |
| 4379 1786 | 442 1857 | 4442 3102 | 4444 3039 | 4510 2012 | 454 2052 | 470 2078 | 492 2156 | 5159 0033 | 5311 2271 | | | | | | | | |
| 4379 1787 | 442 1858 | 4442 3120 | 4444 3055 | 4510 3040 | 454 2053 | 470 2081 | 493 2158 | 5159 0036 | 5311 2273 | | | | | | | | |
| 4379 1788 | 442 1859 | 4442 3155 | 4444 3071 | 4510 3056 | 454 3435 | 470 2085 | 500 2159 | 5159 0037 | 5311 2274 | | | | | | | | |
| 4379 1789 | 442 1860 | 4442 3173 | 4444 3102 | 4510 3072 | 454 3441 | 470 2090 | 500 2160 | 5159 0038 | 5311 2275 | | | | | | | | |
| 4379 1790 | 442 1861 | 4442 3198 | 4444 3120 | 4510 3103 | 457 2054 | 470 2098 | 5020 2161 | 5159 0040 | 5311 2276 | | | | | | | | |
| 4379 1791 | 442 1862 | 4442 3215 | 4444 3155 | 4510 3121 | 457 2055 | 470 2105 | 5021 2087 | 5159 0041 | 5311 2277 | | | | | | | | |
| 4379 1792 | 442 1863 | 4442 3242 | 4444 3173 | 4510 3156 | 4589 0539 | 470 2108 | 5021 2162 | 5159 0042 | 5311 2278 | | | | | | | | |
| 4379 1793 | 442 1864 | 4442 3260 | 4444 3198 | 4510 3174 | 4589 0579 | 470 2110 | 5021 2163 | 5159 2196 | 5311 2470 | | | | | | | | |
| 4379 1794 | 4439 1865 | 4442 3294 | 4444 3215 | 4510 3199 | 4589 2056 | 470 2111 | 5021 2164 | 517 2197 | 5311 3823 | | | | | | | | |
| 4379 3389 | 4440 1866 | 4442 3312 | 4444 3242 | 4510 3216 | 4589 2057 | 470 2112 | 5021 2165 | 5191 1607 | 5319 2059 | | | | | | | | |
| 4380 1175 | 4440 1867 | 4442 3347 | 4444 3260 | 4510 3243 | 4589 2058 | 470 2113 | 5030 2118 | 5191 1632 | 5319 2279 | | | | | | | | |
| 4380 1196 | 4440 1868 | 4442 3365 | 4444 3294 | 4510 3261 | 4589 2059 | 470 2114 | 5030 2166 | 5191 2121 | 5319 2280 | | | | | | | | |
| 4380 1232 | 4440 1869 | 4443 1914 | 4449 3312 | 4510 3295 | 4589 2060 | 470 2115 | 5030 2167 | 5191 2198 | 5319 2281 | | | | | | | | |
| 4380 1795 | 4440 1870 | 4443 1915 | 4449 3347 | 4510 3313 | 4589 2061 | 470 2116 | 5030 2168 | 5191 2199 | 5319 2282 | | | | | | | | |
| 4380 1796 | 4440 1871 | 4443 1916 | 4449 3365 | 4510 3348 | 4589 2062 | 470 2117 | 5031 2118 | 5191 2200 | | | | | | | | | |

APPENDIX C

ENTITY AXIS MULTIPLE CAUSE CODES WHICH MAY BE CHANGED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

CODE	ENTRY NO.																		
5321	2285	5511	2333	5602	2331	5670	3058	5699	2473	580	2537	583	2601	5901	2660	5931	2705	595	3300
5321	2286	5511	2334	5602	2334	5670	3074	5699	2474	580	2538	583	2602	5901	2661	5931	2706	595	3324
5321	2287	5511	2335	5602	2337	5670	3105	5699	2475	580	2539	583	2603	5901	2662	5931	2707	595	3353
5321	2288	5511	2335	5602	2341	5670	3123	5699	2476	580	2540	583	2604	5901	2663	5931	2708	595	3377
5321	2289	5511	2363	5602	2344	5670	3158	5699	2477	580	2541	583	2605	5901	2664	5931	2709	5969	2758
5321	2290	5511	2372	5602	2350	5670	3176	5699	2478	580	2542	583	2606	5901	2665	5931	2710	5969	2759
5321	2316	5511	2380	5602	2370	5670	3202	5699	2479	580	2543	583	2607	5901	2666	5931	2711	597	2760
5321	2472	5511	2388	5602	2371	5670	3219	5699	2480	580	2544	583	2608	5901	2667	5931	2712	597	2761
5329	2061	5511	2396	5602	2372	5670	3245	5699	2481	580	2545	583	3094	5901	2668	5931	2713	597	2762
5329	2291	5511	2481	5602	2373	5670	3263	5699	2482	580	2546	583	3127	5901	3028	5931	2714	598	2763
5329	2292	5512	1968	5602	2374	5670	3297	5699	2483	580	2547	583	3147	5901	3044	5931	2715	598	2764
5329	2293	5512	2336	5602	2375	5670	3315	5699	2484	580	2548	583	3180	5901	3060	5931	2716	598	2765
5329	2294	5512	2337	5602	2376	5670	3350	5699	2485	580	2549	583	3234	5901	3076	5931	2717	598	2766
5329	2295	5512	2338	5602	2377	5670	3368	570	2486	580	2550	583	3267	5901	3107	5931	3029	5990	2767
5329	2296	5512	2339	5603	2328	5679	2321	570	2487	580	2551	583	3286	5901	3129	5931	3045	5990	2768
5329	2299	5512	2356	5603	2331	5679	2324	570	2488	580	3092	583	3319	5901	3160	5931	3061	5990	2769
5329	2317	5512	2364	5603	2334	5679	2429	570	2489	580	3125	583	3339	5901	3182	5931	3095	5990	2770
5329	2473	5512	2373	5603	2337	5679	2430	570	2490	580	3145	583	3372	5901	3204	5931	3130	5990	2771
5329	2474	5512	2381	5603	2341	5679	2431	570	2491	580	3178	583	3814	5901	3221	5931	3148	5990	2772
5329	3825	5512	2389	5603	2344	5679	2432	570	2492	580	3232	584	1176	5901	3247	5931	3183	5990	2773
5330	2292	5512	2397	5603	2350	5679	2433	570	2493	580	3265	584	1197	5901	3269	5931	3235	5990	2774
5330	2297	5512	2482	5603	2378	5679	2434	570	2494	580	3284	584	1214	5901	3299	5931	3270	5990	2775
5330	2298	5512	3627	5603	2379	5679	2435	570	2495	580	3317	584	1275	5901	3321	5931	3287	5990	2776
5330	2299	5513	1969	5603	2380	5679	2436	570	3091	580	3337	584	1300	5901	3352	5931	3322	5990	2777
5330	3826	5513	2340	5603	2381	5679	2437	570	3124	580	3370	584	2609	5901	3374	5931	3340	5990	2778
5339	2300	5513	2341	5603	2382	5679	2438	570	3144	581	1176	584	2610	5902	2669	5931	3375	5990	2779
5339	2475	5513	2342	5603	2383	5679	2439	570	3177	581	1197	584	2611	5902	2670	5932	1177	5990	2780
5339	3827	5513	2357	5603	2384	5679	2440	570	3231	581	1214	584	2612	5902	2671	5932	1198	5990	2781
5340	2301	5513	2365	5603	2385	5679	2441	570	3264	581	2552	584	2613	5902	2672	5932	1215	5990	2782
5340	2306	5513	2374	5604	2328	5679	2442	570	3283	581	2553	584	2614	5902	2673	5932	1276	5990	2783
5341	2062	5513	2382	5604	2331	5679	2443	570	3316	581	2554	584	2615	5902	2674	5932	2718	5990	2784
5341	2063	5513	2390	5604	2334	5679	2444	570	3336	581	2555	584	2616	5902	2675	5932	2719	5990	2785
5341	2301	5513	2398	5604	2337	5679	2445	570	3369	581	2556	584	2617	5902	2676	5932	2720	5990	2786
5341	2302	5513	2483	5604	2341	5679	2446	5718	0623	581	2557	584	2618	5902	2677	5932	2721	5990	2787
5341	2303	5518	1970	5604	2344	5679	2447	5718	0630	581	2558	584	2619	5902	2678	5932	2722	5990	3031
5341	2304	5518	2343	5604	2350	5679	2448	5718	0641	581	2559	584	2620	5902	2679	5932	2723	5990	3047
5341	2305	5518	2344	5604	2386	5679	2449	5718	0648	581	2560	584	2621	5902	2680	5932	2724	5990	3063
5341	2306	5518	2345	5604	2387	5679	2450	5718	2496	581	2561	584	2622	5902	2681	5932	2725	5990	3078
5341	2307	5518	2358	5604	2388	5679	2451	5718	2497	581	2562	584	2623	5902	2682	5932	2726	5990	3109
5341	2476	5518	2366	5604	2389	5679	3026	5718	2498	581	2563	584	2651	5902	2683	5932	2727	5990	3133
5349	2064	5518	2375	5604	2390	5679	3042	5719	0624	581	2564	5900	2624	5902	2684	5932	2728	5990	3162
5349	2308	5518	2383	5604	2391	5679	3058	5719	0631	581	2565	5900	2625	5902	2685	5932	2729	5990	3166
5349	2309	5518	2391	5604	2392	5679	3074	5719	0642	581	2566	5900	2626	5902	3028	5932	2730	5990	3206
5349	2310	5518	2399	5604	2393	5679	3105	5719	0649	581	2567	5900	2627	5902	3044	5932	2731	5990	3223
5349	2311	5518	2484	5609	2328	5679	3123	5719	2499	581	3093	5900	2628	5902	3060	5932	2732	5990	3249
5349	2477	5519	1971	5609	2331	5679	3158	5719	2500	581	3126	5900	2629	5902	3076	5932	2733	5990	3273
5349	2478	5519	2346	5609	2334	5679	3176	5719	2501	581	3146	5900	2630	5902	3107	5932	2734	5990	3301
5349	3828	5519	2347	5609	2337	5679	3202	5719	2502	581	3179	5900	2631	5902	3129	5932	3096	5990	3305
535	2312	5519	2348	5609	2341	5679	3219	5719	2503	581	3233	5900	2632	5902	3160	5932	3131	5990	3304
5379	2280	5519	2349	5609	2344	5679	3245	5719	2504	581	3266	5900	2633	5902	3182	5932	3149	5990	3378
5379	2289	5519	2350	5609	2350	5679	3263	5719	2505	581	3285	5900	2634	5902	3204	5932	3184	5991	2708
5379	2293	5519	2351	5609	2394	5679	3297	572	0009	581	3318	5900	2635	5902	3221	5932	3236	5991	2709
5379	2313	5519	2352	5609	2395	5679	3315	572	2506	581	3338	5900	2636	5902	3247	5932	3271	5991	2700
5379	2314	5519	2359	5609	2396	5679	3350	5730	2507	581	3371	5900	2637	5902	3269	5932	3288	5992	2751
5379	2315	5519	2367	5609	2397	5679	3368	5730	2508	582	1176	5900	2638	5902	3299	5932	3323	5992	2752
5379	2316	5519	2376	5609	2398	568	2402	5730	2509	582	1197	5900	2639	5902	3321	5932	3341	5999	2703
5379	2317	5519	2384	5609	2399	568	2452	5730	2510	582	1214	5900	2640	5902	3352	5932	3376	5999	2704
5409	2318	5519	2392	5609	2400	568	2453	5730	2511	582	2568	5900	2641	5902	3374	5932	3815	5999	2705
5409	2319	5519	2400	5609	2401	568	2454	5730	2512	582	2569	5900	2642	5909	2686	5935	2735	5999	2706
5409	2320	5519	2485	5609	2402	5690	2455	5730	2513	582	2570	5900	2643	5909	2687	5935	2736	5999	2707
5409	2321	5519	3628	5609	2403	5690	2456	5730	2514	582	2571	5900	2644	5909	2688	595	2737	601	2708
5409	2412	5600	2328	5609	2454	5691	2457	5739	2515	582	2572	5900	2645	5909	2689	595	2738	601	2709
5409	2434	5600	2331	5609	2521	5692	2458	5739	2516	582	2573	5900	3027	5909	2690	595	2739	601	2800
541	2322	5600	2334	561	2123	5692	2459	5739	2517	582	2574	5900	3043	5909	2691	595	2740	602	2801
541	2323	5600	2337	561	2404	5692	2460	5739	2518	582	2575	5900	3059	5909	2692	595	2741	602	2802
541	2324	5600	2341	561	2405	5692	2461	5739	2519	582	2576	5900	3075	5909	2693	595	2742	604	2803
541	2412	5600	2344	566															

APPENDIX C

ENTITY AXIS MULTIPLE CAUSE CODES WHICH MAY BE CHANGED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

CODE	ENTRY NO.																		
612	2831	614	3163	6209	3328	6294	2996	6315	0070	6316	3061	6401	0089	6409	3116	6411	3159	6421	1890
612	2832	614	3187	6209	3357	6294	2997	6315	0086	6316	3062	6401	0105	6409	3117	6411	3160	6421	1906
612	2833	614	3207	6209	3381	6294	2998	6315	0102	6316	3063	6401	0122	6409	3118	6411	3161	6421	1922
612	2834	614	3224	6210	2940	6294	2999	6315	0119	6316	3064	6401	0138	6409	3119	6411	3162	6421	1938
612	2835	614	3250	6211	2941	6294	3000	6315	0135	6316	3065	6401	0155	6409	3120	6411	3163	6421	1954
612	2836	614	3274	6212	2942	6294	3001	6315	0152	6316	3066	6401	0171	6409	3121	6411	3164	6421	1986
612	2837	614	3302	6213	2943	6294	3002	6315	0168	6316	3067	6401	1870	6409	3122	6411	3165	6421	2004
612	2838	614	3326	6214	2944	6294	3003	6315	1867	6316	3068	6401	1886	6409	3123	6411	3166	6421	2022
612	2839	614	3355	6215	2945	6294	3004	6315	1883	6319	0052	6401	1902	6409	3124	6411	3167	6421	2040
612	2840	614	3379	6216	2946	6294	3005	6315	1899	6319	0072	6401	1918	6409	3125	6411	3168	6421	2041
612	2841	6150	2886	6216	2947	6294	3006	6315	1915	6319	0088	6401	1934	6409	3126	6419	0056	6421	2421
612	2842	6151	2887	6219	2948	6294	3007	6315	1931	6319	0104	6401	1950	6409	3127	6419	0076	6421	2444
612	3032	6152	2888	6219	2949	6294	3008	6315	1947	6319	0121	6401	1982	6409	3128	6419	0092	6421	2638
612	3048	6159	2889	6219	2950	6294	3009	6315	1979	6319	0137	6401	2000	6409	3129	6419	0108	6421	2661
612	3064	6159	2890	6220	2951	6294	3010	6315	1997	6319	0154	6401	2018	6409	3130	6419	0125	6421	2678
612	3079	6159	2891	6220	2952	6294	3011	6315	2015	6319	0170	6401	2036	6409	3131	6419	0141	6421	2695
612	3110	6159	2892	6220	2953	6294	3012	6315	2033	6319	1869	6401	2417	6409	3132	6419	0158	6421	2750
612	3134	6159	2893	6220	2954	6294	3013	6315	2414	6319	1885	6401	2440	6409	3133	6419	0174	6421	2780
612	3163	6160	2894	6220	2955	6294	3036	6315	2437	6319	1901	6401	2634	6409	3134	6419	0787	6421	2835
612	3187	6160	2895	6220	2956	6294	3052	6315	2631	6319	1917	6401	2657	6409	3135	6419	0793	6421	2856
612	3207	6160	2896	6220	2957	6294	3068	6315	2654	6319	1933	6401	2674	6409	3136	6419	0801	6421	2878
612	3224	6160	2897	6220	2958	6294	3083	6315	2671	6319	1949	6401	2691	6409	3137	6419	1280	6421	2903
612	3250	6160	2898	6220	2959	6294	3114	6315	2688	6319	1981	6401	2746	6409	3138	6419	1873	6421	2932
612	3274	6160	2899	6220	2960	6294	3138	6315	2706	6319	1999	6401	2776	6409	3139	6419	1889	6421	2962
612	3302	6160	2900	6220	2961	6294	3167	6315	2743	6319	2017	6401	2831	6409	3140	6419	1905	6421	2985
612	3326	6160	2901	6220	2962	6294	3191	6315	2773	6319	2035	6401	2852	6409	3141	6419	1921	6421	3006
612	3355	6160	2902	6220	2963	6294	3211	6315	2828	6319	2416	6401	2874	6409	3837	6419	1937	6421	3195
612	3379	6160	2903	6220	2964	6294	3228	6315	2849	6319	2439	6401	2899	6409	3852	6419	1953	6421	3196
613	2843	6160	2904	6220	2965	6294	3254	6315	2871	6319	2633	6401	2928	6410	0786	6419	1985	6421	3197
613	2844	6160	2905	6220	2966	6294	3278	6315	2896	6319	2656	6401	2958	6410	0792	6419	2003	6421	3198
613	2845	6160	2906	6220	2967	6294	3306	6315	2925	6319	2673	6401	2981	6410	0800	6419	2021	6421	3199
613	2846	6160	2907	6220	2968	6294	3330	6315	2955	6319	2690	6401	3002	6410	1279	6419	2039	6421	3200
613	2847	6160	2908	6220	2969	6294	3359	6315	2978	6319	2745	6401	3097	6410	2488	6419	2420	6421	3201
613	2848	6160	2909	6220	3035	6294	3383	6315	2999	6319	2775	6401	3100	6410	2543	6419	2443	6421	3202
613	2849	6160	2910	6220	3051	6297	3014	6315	3037	6319	2830	6401	3101	6410	2559	6419	2489	6421	3203
613	2850	6160	3033	6220	3067	6297	3015	6315	3038	6319	2851	6401	3102	6410	2599	6419	2544	6421	3204
613	2851	6160	3049	6220	3082	6299	3016	6315	3039	6319	2873	6401	3103	6410	2710	6419	2560	6421	3205
613	2852	6160	3065	6220	3113	6299	3017	6315	3040	6319	2898	6401	3104	6410	2726	6419	2600	6421	3206
613	2853	6160	3080	6220	3137	6299	3018	6315	3041	6319	2927	6401	3105	6410	3142	6419	2637	6421	3207
613	2854	6160	3111	6220	3166	6299	3019	6315	3042	6319	2957	6401	3106	6410	3143	6419	2660	6421	3208
613	2855	6160	3135	6220	3190	6313	3020	6315	3043	6319	2980	6401	3107	6410	3144	6419	2677	6421	3209
613	2856	6160	3164	6220	3210	6314	0049	6315	3044	6319	3001	6401	3108	6410	3145	6419	2694	6421	3210
613	2857	6160	3188	6220	3227	6314	0069	6315	3045	6319	3069	6401	3109	6410	3146	6419	2711	6421	3211
613	2858	6160	3208	6220	3253	6314	0085	6315	3046	6319	3070	6401	3110	6410	3147	6419	2727	6421	3212
613	2859	6160	3225	6220	3277	6314	0101	6315	3047	6319	3071	6401	3111	6410	3148	6419	2749	6429	0058
613	2860	6160	3251	6220	3305	6314	0118	6315	3048	6319	3072	6401	3112	6410	3149	6419	2779	6429	0078
613	2861	6160	3275	6220	3329	6314	0134	6315	3049	6319	3073	6401	3113	6410	3150	6419	2834	6429	0094
613	2862	6160	3303	6220	3358	6314	0151	6315	3050	6319	3074	6401	3114	6410	3151	6419	2855	6429	0110
613	2863	6160	3327	6220	3382	6314	0167	6315	3051	6319	3075	6401	3115	6410	3152	6419	2877	6429	0127
613	3032	6160	3356	6221	2970	6314	1866	6315	3052	6319	3076	6409	0054	6410	3168	6419	2902	6429	0143
613	3048	6160	3380	6221	2971	6314	1882	6316	0051	6319	3077	6409	0074	6410	3838	6419	2931	6429	0160
613	3064	6161	2911	6221	2972	6314	1898	6316	0071	6319	3078	6409	0090	6410	3853	6419	2961	6429	0176
613	3079	6162	2912	6221	2973	6314	1914	6316	0087	6319	3079	6409	0106	6411	0055	6419	2984	6429	1875
613	3110	6169	2913	6221	2974	6314	1930	6316	0103	6319	3080	6409	0123	6411	0075	6419	3005	6429	1891
613	3134	6200	2914	6221	2975	6314	1946	6316	0120	6319	3081	6409	0139	6411	0091	6419	3169	6429	1907
613	3163	6200	2915	6221	2976	6314	1978	6316	0136	6319	3082	6409	0156	6411	0107	6419	3170	6429	1923
613	3187	6200	2916	6221	2977	6314	1996	6316	0153	6319	3083	6409	0172	6411	0124	6419	3171	6429	1939
613	3207	6200	2917	6221	2978	6314	2014	6316	0169	6329	3084	6409	0785	6411	0140	6419	3172	6429	1955
613	3224	6200	2918	6221	2979	6314	2032	6316	1868	6349	0540	6409	0791	6411	0157	6419	3173	6429	1987
613	3250	6209	2919	6221	2980	6314	2413	6316	1884	6349	0545	6409	0799	6411	0173	6419	3174	6429	2005
613	3274	6209	2920	6221	2981	6314	2436	6316	1900	6349	0550	6409	1278	6411	1872	6419	3175	6429	2023
613	3302	6209	2921	6221	2982	6314	2630	6316	1916	6349	0555	6409	1871	6411	1888	6419	3176	6429	2042
613	3326	6209	2922	6221	2983	6314	2653	6316	1932	6349	0560	6409	1887	6411	1904	6419	3177	6429	2043
613	3355	6209	2923	6221	2984	6314	2670	6316	1948	6349	0565	6409	1903	6411	1920	6419	3178	6429	2422
613	3379	6209	2924	6221	2985	6314	2687	6316	1980	6349	0570	6409	1919	6411	1936	6419	3179	6429	2445
614	2864	6209	2925	6221	2986	6314	2705	6316	1998	6349	0580	6409	1935	6411	19				

APPENDIX C

ENTITY AXIS MULTIPLE CAUSE CODES WHICH MAY BE CHANGED BY AXIS TRANSLATION AND THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

CODE	ENTRY NO.																		
6429	3227	6439	2007	6441	2642	6449	3326	6459	0804	6589	3394	6820	3414	7292	3492	7352	3571	7568	2339
6429	3228	6439	2025	6441	2665	6449	3327	6459	1286	6619	0547	6821	3415	7293	3493	7352	3572	7568	2352
6429	3229	6439	2045	6441	2682	6449	3328	6459	1881	6619	0552	6822	3416	7293	3494	7352	3573	7568	2627
6430	1281	6439	2424	6441	2699	6449	3329	6459	1897	6619	0557	6823	3417	7294	3495	7352	3574	7568	2628
6430	2490	6439	2447	6441	2754	6449	3330	6459	1913	6619	0562	6824	3418	7294	3496	7359	1472	7569	2629
6430	2545	6439	2491	6441	2784	6449	3331	6459	1929	6619	0567	6825	3419	7295	3497	7359	1493	7572	2630
6430	2561	6439	2546	6441	2839	6449	3332	6459	1945	6619	0572	6829	3420	7295	3498	7359	1608	7579	2631
6430	2601	6439	2562	6441	2860	6449	3333	6459	1961	6619	3395	683	3421	7296	3499	7359	1633	7589	2632
6430	2712	6439	2602	6441	2882	6449	3343	6459	1993	6619	3396	6869	3422	7296	3500	7359	1634	7589	2633
6430	2728	6439	2641	6441	2907	6449	3858	6459	2011	6770	0541	6869	3423	7297	3501	7359	1635	7599	2634
6430	3230	6439	2664	6441	2936	6450	1285	6459	2029	6770	0548	694	3424	7297	3502	7359	1636	7599	2635
6430	3231	6439	2681	6441	2966	6450	2048	6459	2050	6770	0553	6954	0686	7298	3503	7359	1637	7599	2636
6430	3232	6439	2698	6441	2989	6450	2494	6459	2428	6770	0558	6954	2551	7298	3504	7359	1638	7599	2637
6430	3233	6439	2713	6441	3010	6450	2549	6459	2451	6770	0563	6954	2567	7299	3505	7389	1638	7599	2638
6430	3234	6439	2729	6441	3289	6450	2565	6459	2495	6770	0568	6954	2581	7299	3506	7419	0770	7599	2639
6430	3235	6439	2753	6441	3292	6450	2605	6459	2550	6770	0573	6954	2607	7299	3507	7419	0771	7599	2640
5430	3236	6439	2783	6441	3293	6450	2716	6459	2566	6770	0581	6961	3454	7310	3508	7419	3580	7599	2641
6430	3237	6439	2838	6441	3294	6450	2732	6459	2606	6770	3397	7011	3425	7310	3509	7419	3581	7644	2642
6430	3238	6439	2859	6441	3295	6450	3334	6459	2645	6770	3398	7012	3426	7310	3510	7419	3582	7644	2643
6430	3239	6439	2881	6441	3296	6450	3335	6459	2668	6770	3399	7012	3427	7310	3511	7419	3583	7644	2644
6430	3255	6439	2906	6441	3297	6450	3336	6459	2685	6779	0542	702	3428	7310	3512	7419	3584	7644	2645
6430	3840	6439	2935	6441	3298	6450	3337	6459	2702	6779	0549	702	3429	7311	3513	742	3583	7644	2702
6430	3855	6439	2965	6441	3299	6450	3338	6459	2717	6779	0554	7039	0583	7311	3514	742	3584	7644	2712
6431	0059	6439	2988	6441	3300	6450	3339	6459	2733	6779	0559	7039	3430	7311	3515	742	3585	7644	2722
6431	0079	6439	3009	6441	3301	6450	3340	6459	2757	6779	0564	704	3431	7311	3516	742	3660	7644	2736
6431	0095	6439	3256	6441	3302	6450	3341	6459	2787	6779	0569	704	3432	7311	3517	742	3661	7649	2646
6431	0111	6439	3257	6441	3303	6450	3342	6459	2842	6779	0574	7070	3433	7312	3518	742	3662	7649	2647
6431	0128	6439	3258	6441	3304	6450	3343	6459	2863	6779	0582	7071	2051	7312	3519	742	3663	7649	2648
6431	0144	6439	3259	6441	3305	6450	3344	6459	2885	6779	0584	7071	2053	7312	3520	742	3664	7649	2649
6431	0161	6439	3260	6441	3306	6450	3360	6459	2910	6779	2065	7071	3434	7312	3521	742	3669	7649	2650
6431	0177	6439	3261	6441	3307	6450	3844	6459	2939	6779	3400	7071	3435	7312	3522	742	3684	7649	2703
6431	1876	6439	3262	6449	0062	6450	3859	6459	2969	6779	3401	7079	0823	7313	3523	742	3685	7649	2713
6431	1892	6439	3263	6449	0082	6451	0063	6459	2992	6779	3402	7079	2051	7313	3524	742	3686	7649	2723
6431	1908	6439	3264	6449	0098	6451	0083	6459	3013	6779	3403	7079	2053	7313	3525	742	3687	7649	2737
6431	1924	6439	3265	6449	0114	6451	0099	6459	3361	6779	3404	7079	2066	7313	3526	742	3688	7649	2756
6431	1940	6439	3266	6449	0131	6451	0115	6459	3362	6800	3405	7079	2066	7313	3527	742	3693	7649	2761
6431	1956	6439	3267	6449	0147	6451	0132	6459	3363	6800	3405	7079	2066	7314	3528	7430	3586	7649	2766
6431	1988	6439	3268	6449	0164	6451	0148	6459	3364	6800	3406	7079	2066	7314	3529	7430	3587	7649	2771
6431	2006	6439	3269	6449	0180	6451	0165	6459	3365	6800	3407	7079	2066	7314	3530	7439	3588	7649	2776
6431	2024	6439	3270	6449	0789	6451	0181	6459	3366	6800	3408	7079	2066	7314	3531	7449	3589	7649	2781
6431	2044	6439	3271	6449	0795	6451	1880	6459	3367	6800	3409	7079	2066	7314	3532	7452	0920	7654	2651
6431	2423	6439	3272	6449	0803	6451	1896	6459	3368	6800	3410	7079	2066	7315	3533	7452	0921	7654	2652
6431	2446	6439	3273	6449	1284	6451	1912	6459	3369	6800	3411	7079	2066	7315	3534	7452	0922	7654	2653
6431	2640	6439	3274	6449	1879	6451	1928	6459	3370	6801	3405	7079	2066	7315	3535	7452	0923	7654	2654
6431	2663	6439	3275	6449	1895	6451	1944	6459	3371	6801	3406	7079	2066	7315	3536	7452	0924	7654	2704
6431	2680	6439	3276	6449	1911	6451	1960	6459	3372	6801	3406	7079	2066	7315	3537	7452	0925	7654	2714
6431	2697	6439	3277	6449	1927	6451	1992	6459	3373	6801	3407	7099	3445	7316	3538	7452	0926	7654	2724
6431	2752	6439	3278	6449	1943	6451	2010	6459	3374	6801	3408	7099	3446	7316	3539	7452	0927	7654	2738
6431	2782	6439	3279	6449	1959	6451	2028	6459	3375	6801	3409	7099	3447	7316	3540	7453	0928	7659	2655
6431	2837	6439	3280	6449	1991	6451	2049	6459	3376	6801	3410	7131	3448	7316	3541	7453	0929	7659	2656
6431	2858	6439	3281	6449	2009	6451	2427	6459	3377	6801	3411	7131	3449	7316	3542	7453	0930	7659	2657
6431	2880	6439	3841	6449	2027	6451	2450	6459	3378	6802	3405	7131	3450	7317	3543	7453	0931	7659	2658
6431	2905	6439	3856	6449	2047	6451	2644	6459	3379	6802	3406	715	3451	7317	3544	7453	0932	7659	2659
6431	2934	6440	1283	6449	2426	6451	2667	6459	3380	6802	3407	715	3452	7317	3545	7453	0933	7659	2705
6431	2964	6440	2492	6449	2449	6451	2684	6459	3381	6802	3407	715	3453	7317	3546	7453	0934	7659	2715
6431	2987	6440	2547	6449	2493	6451	2701	6459	3382	6802	3408	715	3454	7317	3547	7453	0935	7659	2725
6431	3008	6440	2563	6449	2548	6451	2756	6459	3383	6802	3409	715	3455	7318	3548	7453	0936	7659	2739
6431	3237	6440	2603	6449	2564	6451	2786	6459	3384	6802	3410	715	3456	7318	3549	7453	0937	7659	2757
6431	3240	6440	2714	6449	2604	6451	2841	6459	3385	6802	3411	7179	3457	7318	3550	7463	3600	7659	2762
6431	3241	6440	2730	6449	2643	6451	2862	6459	3385	6803	3405	718	3458	7318	3551	7469	3601	7659	2767
6431	3242	6440	3282	6449	2666	6451	2884	6459	3386	6803	3406	718	3459	7318	3552	7469	3602	7659	2772
6431	3243	6440	3283	6449	2683	6451	2909	650	0546	6803	3407	7200	3460	7319	3553	7472	3603	7659	2777
6431	3244	6440	3284	6449	2700	6451	2938	650	0551	6803	3408	7200	3461	7319	3554	7473	3604	7659	2782
6431	3245	6440	3285	6449	2715	6451	2968	650	0556	6803	3408	7200	3462	7319	3555	7476	1679	7660	2660
6431	3246	6440	3286	6449	2731	6451	2991	650	0561	6803	3409	7201	3463	7319	3556	7476	1680	7661	2661
6431	3247	6440	3287	6449	2755	6451	3012	650	0566	6803									

APPENDIX C

ENTITY AXIS MULTIPLE CAUSE CODES WHICH MAY BE CHANGED BY AXIS TRANSLATION AND
THE TABLE ENTRIES IN WHICH THEY ARE LOCATED

CODE	ENTRY NO.																
7674	3676	7721	3720	7762	3768	7845	3825										
7674	3677	7721	3721	7762	3769	7845	3826										
7674	3678	7722	3644	7762	3770	7845	3827										
7674	3708	7722	3648	7763	3650	7845	3828										
7674	3718	7722	3653	7763	3659	7845	3829										
7674	3728	7722	3657	7763	3674	7853	3830										
7674	3742	7722	3667	7763	3683	7853	3831										
7679	3679	7722	3672	7763	3698	7857	3444										
7679	3680	7722	3677	7763	3771	7857	3832										
7679	3681	7722	3681	7763	3772	7880	0507										
7679	3682	7722	3691	7763	3773	7880	3833										
7679	3683	7722	3696	7763	3774	7880	3834										
7679	3709	7722	3722	7763	3775	7882	2257										
7679	3719	7722	3723	7764	3650	7882	3835										
7679	3729	7722	3724	7764	3659	7890	3098										
7679	3743	7722	3725	7764	3674	7890	3140										
7679	3759	7722	3726	7764	3683	7890	3151										
7679	3764	7722	3727	7764	3698	7890	3193										
7679	3769	7722	3728	7764	3776	7890	3238										
7679	3774	7722	3729	7764	3777	7890	3280										
7679	3779	7722	3730	7764	3778	7890	3290										
7679	3784	7722	3731	7764	3779	7890	3332										
7680	3684	7729	0781	7764	3780	7890	3343										
7681	3685	7729	0784	7769	3650	7890	3384										
7682	3686	7729	0805	7769	3659	7890	3836										
7683	3687	7729	0809	7769	3674	7890	3837										
7684	3688	7729	3645	7769	3683	7890	3838										
7684	3689	7729	3649	7769	3698	7890	3839										
7684	3690	7729	3654	7769	3781	7890	3840										
7684	3691	7729	3658	7769	3782	7890	3841										
7684	3692	7729	3668	7769	3783	7890	3842										
7684	3710	7729	3673	7769	3784	7890	3843										
7684	3720	7729	3678	7769	3785	7890	3844										
7684	3730	7729	3682	7769	3786	7890	3845										
7684	3744	7729	3692	7789	3787	792	1178										
7689	3693	7729	3697	7800	0506	792	1199										
7689	3694	7729	3732	7800	3788	792	1216										
7689	3695	7729	3733	7804	0254	792	1395										
7689	3696	7729	3734	7804	3789	792	3099										
7689	3697	7729	3735	7810	3790	792	3141										
7689	3698	7729	3736	7810	3791	792	3152										
7689	3711	7729	3737	7811	0497	792	3194										
7689	3721	7729	3738	7811	3792	792	3239										
7689	3731	7729	3739	7815	3793	792	3281										
7689	3745	7729	3740	7815	3794	792	3291										
7689	3760	7729	3741	7816	3795	792	3333										
7689	3765	7729	3742	7816	3796	792	3344										
7689	3770	7729	3743	7817	3797	792	3385										
7689	3775	7729	3744	7817	3798	792	3846										
7689	3780	7729	3745	7817	3799	792	3847										
7689	3785	7749	3746	7817	3800	792	3848										
7711	3699	7749	3747	7817	3801	792	3849										
7720	0703	7749	3748	7817	3802	792	3850										
7720	3642	7749	3749	7824	0964	792	3851										
7720	3646	7749	3751	7824	0965	792	3852										
7720	3651	7749	3752	7824	1634	792	3853										
7720	3655	7749	3753	7824	2201	792	3854										
7720	3665	7750	3747	7824	3565	792	3855										
7720	3670	7750	3750	7824	3569	792	3856										
7720	3675	7750	3751	7824	3573	792	3857										
7720	3679	7751	3748	7824	3577	792	3858										
7720	3689	7751	3752	7824	3803	792	3859										
7720	3694	7752	3749	7824	3804	792	3860										
7720	3700	7752	3753	7824	3805	794	0532										
7720	3701	7759	3754	7824	3806	794	0604										
7720	3702	7759	3755	7824	3807	794	0614										
7720	3703	7760	3650	7824	3808	794	1635										
7720	3704	7760	3659	7824	3809	794	3456										
7720	3705	7760	3674	7824	3810	794	3861										
7720	3706	7760	3683	7824	3811	794	3862										
7720	3707	7760	3698	7824	3812												
7720	3708	7760	3756	7824	3813												
7720	3709	7760	3757	7826	2608												
7720	3710	7760	3758	7826	2734												
7720	3711	7760	3759	7826	3814												
7721	3643	7760	3760	7826	3815												
7721	3647	7761	3650	7828	3816												
7721	3652	7761	3659	7828	3817												
7721	3656	7761	3674	7828	3818												
7721	3666	7761	3683	7831	2124												
7721	3671	7761	3698	7831	3819												
7721	3676	7761	3761	7831	3820												
7721	3680	7761	3762	7833	2067												
7721	3690	7761	3763	7833	2125												
7721	3695	7761	3764	7833	3821												
7721	3712	7761	3765	7833	3822												
7721	3713	7762	3650	7845	2278												
7721	3714	7762	3659	7845	2282												
7721	3715	7762	3674	7845	2296												
7721	3716	7762	3683	7845	2311												
7721	3717	7762	3698	7845	3443												
7721	3718	7762	3766	7845	3823												
7721	3719	7762	3767	7845	3824												

USING THE ENTRY NO., SEE APPENDIX A FOR TABLE ENTRY

APPENDIX D

CONVERSION OF NATURE OF INJURY CODES (N-CODES) TO EXTERNAL CAUSE OF INJURY CODES (E-CODES)
ICDA-8 DATA (1968 - 1978)

N-CODE	E-CODE	N-CODE	E-CODE	N-CODE	E-CODE	N-CODE	E-CODE
N800	E887	N904	E929	N9655	E8535	N9882	E868
N801	E887	N905	E929	N9659	E8539	N9889	E868
N802	E887	N906	E929	N9660	E8560	N9890	E869
N803	E887	N907	E929	N9661	E8560	N9891	E865
N804	E887	N910	E929	N9669	E8560	N9892	E865
N805	E887	N911	E929	N9670	E8540	N9893	E865
N806	E887	N912	E929	N9671	E8541	N9894	E905
N807	E887	N913	E929	N9672	E8542	N9895	E861
N808	E887	N914	E929	N9673	E8543	N9899	E869
N809	E887	N915	E929	N9679	E8549	N9900	E9310
N810	E887	N916	E929	N9680	E8561	N9901	E9310
N811	E887	N917	E929	N9681	E8562	N9902	E9310
N812	E887	N918	E929	N9689	E9301	N9903	E9310
N813	E887	N920	E929	N969	E9301	N9904	E9310
N814	E887	N921	E929	N9700	E8550	N9905	E9310
N815	E887	N922	E929	N9701	E8551	N9906	E9310
N816	E887	N923	E929	N9709	E8552	N9909	E9310
N817	E887	N924	E929	N971	E8569	N9910	E901
N818	E887	N925	E929	N9720	E8553	N9911	E901
N819	E887	N926	E929	N9721	E8554	N9912	E901
N820	E887	N927	E929	N9722	E8555	N9913	E901
N821	E887	N928	E929	N9723	E8556	N9914	E901
N822	E887	N929	E929	N9729	E8559	N9919	E901
N823	E887	N930	E914	N9730	E8570	N9920	E900
N824	E887	N931	E915	N9731	E8571	N9921	E900
N825	E887	N932	E912	N9732	E8572	N9922	E900
N826	E887	N933	E912	N9733	E8573	N9923	E900
N827	E887	N934	E912	N9734	E8574	N9924	E900
N828	E887	N935	E915	N9735	E8575	N9925	E900
N829	E887	N936	E915	N9736	E8576	N9926	E900
N830	E929	N937	E915	N9739	E8579	N9927	E900
N831	E929	N938	E915	N9740	E8580	N9929	E900
N832	E929	N939	E915	N9741	E8581	N9930	E902
N833	E929	N940	E899	N9742	E8582	N9931	E902
N834	E929	N941	E899	N9743	E8583	N9932	E902
N835	E929	N942	E899	N9744	E8584	N9933	E902
N836	E929	N943	E899	N9745	E8585	N9940	E907
N837	E929	N944	E899	N9746	E8586	N9941	E9109
N838	E929	N945	E899	N9749	E8589	N9942	E904
N839	E929	N946	E899	N9750	E8591	N9943	E904
N840	E929	N947	E899	N9751	E8592	N9944	E904
N841	E929	N948	E899	N9752	E8593	N9945	E919
N842	E929	N949	E899	N9753	E8593	N9946	E903
N843	E929	N950	E929	N9759	E8593	N9947	E9139
N844	E929	N951	E929	N9760	E8594	N9948	E9239
N845	E929	N952	E929	N9761	E8594	N9949	E904
N846	E929	N953	E929	N9762	E8594	N9950	E902
N847	E929	N954	E929	N9769	E8594	N9951	E929
N848	E929	N955	E929	N9770	E8597	N9952	E929
N850	E929	N956	E929	N9771	E8598	N9953	E929
N851	E929	N957	E929	N9772	E9323	N9954	E929
N852	E929	N958	E929	N9778	E8598	N9955	E929
N853	E929	N959	E929	N9779	E8599	N9956	E929
N854	E929	N9600	E8500	N9780	E8599	N9957	E929
N860	E929	N9601	E8501	N9781	E8599	N9959	E929
N861	E929	N9602	E8502	N9782	E8599	N9960	E929
N862	E929	N9603	E8503	N9783	E8599	N9961	E929
N863	E929	N9604	E8503	N9784	E8599	N9962	E929
N864	E929	N9605	E8503	N9790	E869	N9963	E929
N865	E929	N9609	E8504	N9791	E869	N9964	E929
N866	E929	N9610	E8505	N9792	E869	N9965	E929
N867	E929	N9611	E8506	N9793	E869	N9966	E929
N868	E929	N9612	E8507	N9794	E869	N9967	E929
N869	E929	N9613	E8508	N9800	E860	N9968	E929
N870	E929	N9619	E8509	N9801	E860	N9969	E929
N871	E929	N9620	E8510	N9802	E860	N9970	E9300
N872	E929	N9621	E8511	N9809	E860	N9971	E9300
N873	E929	N9622	E8512	N9810	E864	N9972	E9300
N874	E929	N9623	E8513	N9811	E864	N9973	E9300
N875	E929	N9624	E8514	N9812	E864	N9974	E9328
N876	E929	N9625	E8515	N9819	E864	N9975	E9300
N877	E929	N9626	E8516	N9820	E864	N9976	E9300
N878	E929	N9627	E8517	N9821	E861	N9977	E9300
N879	E929	N9628	E8518	N9822	E864	N9978	E9328
N880	E929	N9629	E8519	N9829	E864	N9979	E9300
N881	E929	N9630	E8520	N9830	E867	N9980	E9300
N882	E929	N9631	E8521	N9831	E867	N9981	E9300
N883	E929	N9632	E8522	N9832	E867	N9982	E9300
N884	E929	N9633	E8522	N9839	E867	N9983	E9300
N885	E929	N9634	E8522	N984	E866	N9984	E9300
N886	E929	N9635	E8524	N9850	E866	N9985	E9300
N887	E929	N9636	E8523	N9851	E866	N9986	E9300
N890	E929	N9639	E8524	N9852	E866	N9987	E9300
N891	E929	N9640	E8525	N9853	E869	N9989	E9300
N892	E929	N9641	E8529	N9859	E866	N9990	E9340
N893	E929	N9642	E8526	N986	E875	N9991	E9349
N894	E929	N9643	E8527	N9870	E870	N9992	E9312
N895	E929	N9644	E8528	N9871	E876	N9993	E9319
N896	E929	N9649	E8529	N9872	E876	N9994	E9319
N897	E929	N9650	E8530	N9873	E876	N9995	E9319
N900	E929	N9651	E8531	N9874	E876	N9996	E9312
N901	E929	N9652	E8532	N9879	E876	N9997	E9312
N902	E929	N9653	E8533	N9880	E868	N9998	E9312
N903	E929	N9654	E8534	N9881	E868	N9999	E9319

APPENDIX E

EFFECT OF AXIS TRANSLATION ON THE FREQUENCY OF OCCURRENCE OF EACH ICDA CATEGORY USED AS AN ADDRESS, SUBADDRESS, OR RECODE (1976 DATA)

ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE	ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE
	ENTITY AXIS CODE	RECORD AXIS CODE			ENTITY AXIS CODE	RECORD AXIS CODE	
0020	-	-	-	041	1	12	1100.0
0021	-	-	-	042	1	1	-
0022	-	-	-	043	103	91	-11.7
0029	-	-	-	0450	-	-	-
0030	-	-	-	0451	-	-	-
0039	124	124	-	0459	68	68	-
0040	-	-	-	046	47	47	-
0041	1	1	-	0500	-	-	-
0042	-	-	-	0501	-	-	-
0043	-	-	-	0509	-	-	-
0044	-	-	-	051	-	-	-
0048	-	-	-	052	141	141	-
0049	26	26	-	0530	16	16	-
0050	1	1	-	0531	22	22	-
0051	5	5	-	0532	3	3	-
0052	-	-	-	0539	618	618	-
0058	-	-	-	054	227	227	-
0059	15	14	-6.7	055	19	19	-
0060	12	15	25.0	056	18	18	-
0069	35	31	-11.4	0570	-	-	-
0070	-	-	-	0571	-	-	-
0071	3	3	-	0578	2	2	-
0072	-	-	-	0579	-	-	-
0079	-	-	-	0600	-	-	-
0080	3	3	-	0601	-	-	-
0081	1	1	-	0609	-	-	-
0082	15	15	-	0620	-	-	-
0083	13	13	-	0621	-	-	-
0088	2	2	-	0622	1	1	-
0089	326	318	-2.5	0623	29	29	-
0090	9	9	-	0624	-	-	-
0091	489	479	-2.0	0629	1	1	-
0092	3345	3313	-1.0	0630	-	-	-
0099	2	2	-	0631	-	-	-
010	61	165	170.5	0632	-	-	-
0110	4	4	-	0639	-	-	-
0111	19	17	-10.5	064	-	-	-
0112	197	194	-1.5	065	277	277	-
0113	515	507	-1.6	0670	-	-	-
0114	36	35	-2.8	0671	-	-	-
0115	-	-	-	0672	-	-	-
0119	3860	3719	-3.7	0673	-	-	-
0120	2	2	-	0689	11	11	-
0121	22	44	100.0	070	704	704	-
0122	4310	4297	-0.3	0749	-	-	-
0123	5	5	-	0780	-	-	-
0129	4	4	-	0781	-	-	-
0130	89	97	9.0	0782	-	-	-
0139	10	12	20.0	0788	-	-	-
014	44	47	6.8	0789	-	-	-
0150	103	103	-	0792	4	4	-
0151	5	5	-	0799	1066	1024	-3.9
0152	4	4	-	080	-	-	-
0158	2	2	-	0810	1	1	-
0159	14	13	-7.1	0811	-	-	-
0160	54	54	-	0812	-	-	-
0161	6	6	-	0819	-	-	-
0162	9	9	-	0820	46	46	-
0169	3	3	-	0821	-	-	-
0170	64	64	-	0822	-	-	-
0171	14	14	-	0829	-	-	-
0172	-	-	-	0830	-	-	-
0173	-	-	-	0831	-	-	-
0179	32	35	9.4	0832	-	-	-
0190	883	883	-	0838	-	-	-
0200	-	-	-	0839	4	3	-25.0
0201	1	1	-	0840	4	4	-
0209	3	3	-	0841	-	-	-
0230	-	-	-	0842	-	-	-
0231	1	1	-	0843	-	-	-
0232	-	-	-	0844	-	-	-
0239	4	4	-	0845	-	-	-
0260	-	-	-	0848	-	-	-
0261	-	-	-	0849	8	8	-
0269	-	-	-	0850	-	-	-
0310	96	96	-	0851	-	-	-
0319	22	22	-	0852	-	-	-
0330	-	-	-	0859	-	-	-
0331	-	-	-	0860	-	-	-
0339	10	10	-	0868	-	-	-
0340	17	17	-	0869	1	1	-
0341	3	3	-	0870	-	-	-
035	21	21	-	0871	-	-	-
0360	136	149	9.6	0878	2	2	-
0361	236	198	-16.1	0879	-	-	-
0368	-	1	-	0880	-	-	-
0369	5	3	-40.0	0881	-	-	-
037	54	54	-	0889	-	-	-
0380	464	464	-	0900	2	2	-
0381	1261	1261	-	0902	1	1	-
0382	226	206	-8.8	0903	2	2	-
0388	2176	2176	-	0904	6	7	16.7
0389	38729	38614	-0.3	0905	-	-	-
0390	202	202	-	0907	2	2	-
040	5	6	20.0	0909	18	17	-5.6

APPENDIX E

EFFECT OF AXIS TRANSLATION ON THE FREQUENCY OF OCCURRENCE OF EACH ICDA CATEGORY USED AS AN ADDRESS, SUBADDRESS, OR RECODE (1976 DATA)

ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE	ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE
	ENTITY AXIS CODE	RECORD AXIS CODE			ENTITY AXIS CODE	RECORD AXIS CODE	
0910	-	-	-	1261	-	-	-
0911	-	-	-	1268	-	-	-
0912	3	3	-	1269	-	-	-
0913	-	-	-	1270	4	4	-
0918	-	-	-	1271	2	2	-
0919	-	-	-	1272	1	1	-
0930	11	22	100.0	1273	1	1	-
0939	157	175	11.5	1274	-	-	-
0940	72	76	5.6	1275	-	-	-
0941	53	52	-1.9	1279	1	1	-
0949	201	206	2.5	1280	-	-	-
095	5	8	60.0	1288	-	-	-
0970	125	100	-20.0	1289	1	1	-
0979	198	166	-16.2	129	1	1	-
0980	2	2	-	1300	-	-	-
0981	2	2	-	1301	11	11	-
0982	1	1	-	1302	2	2	-
0983	-	-	-	1309	12	12	-
0988	3	3	-	1400	9	9	-
0989	1	1	-	1401	46	46	-
0999	8	8	-	1402	2	2	-
1000	-	-	-	1409	153	153	-
1008	-	-	-	1410	291	291	-
1009	13	13	-	1411	-	-	-
1020	-	-	-	1412	2	2	-
1021	-	-	-	1413	-	-	-
1022	-	-	-	1419	2139	2138	-0.0
1023	-	-	-	1420	557	557	-
1024	-	-	-	1428	84	84	-
1025	-	-	-	1429	97	96	-1.0
1026	-	-	-	1430	6	6	-
1027	-	-	-	1431	31	31	-
1029	1	1	-	1439	134	134	-
1030	-	-	-	144	670	670	-
1031	-	-	-	1450	125	125	-
1032	-	-	-	1451	458	458	-
1033	-	-	-	1458	29	29	-
1039	-	-	-	1459	1012	972	-4.0
1100	-	-	-	1460	905	905	-
1101	1	1	-	1468	42	42	-
1109	4	4	-	1469	330	325	-1.5
1110	1	1	-	147	708	708	-
1111	-	-	-	1480	2	2	-
1112	-	-	-	1481	270	270	-
1118	-	-	-	1488	-	-	-
1119	4	4	-	1489	455	451	-0.9
112	504	504	-	149	1760	1721	-2.2
113	19	19	-	150	8123	8123	-
114	113	113	-	1510	343	343	-
115	116	116	-	1511	23	23	-
1160	202	202	-	1518	72	72	-
1161	1	1	-	1519	15919	15912	-0.0
1162	1	1	-	1520	301	301	-
1169	28	28	-	1521	101	101	-
1170	-	-	-	1522	102	95	-6.9
1171	6	6	-	1529	335	333	-0.6
1172	-	-	-	1530	4728	4728	-
1173	146	146	-	1531	1175	1175	-
1174	6	6	-	1532	997	997	-
1178	50	50	-	1533	4348	4302	-1.1
1179	137	135	-1.5	1538	35379	35152	-0.6
1200	-	-	-	1539	2160	2545	17.8
1201	-	-	-	1540	1402	1592	13.6
1202	-	-	-	1541	9945	9744	-2.0
1203	-	-	-	1542	59	70	18.6
1208	-	-	-	1550	2578	2589	0.4
1209	-	-	-	1551	341	341	-
1210	11	11	-	1560	2615	2615	-
1211	-	-	-	1561	1356	1356	-
1212	-	-	-	1562	343	343	-
1213	-	-	-	1569	411	400	-2.7
1214	-	-	-	1570	1925	1925	-
1219	1	1	-	1578	344	344	-
1220	2	2	-	1579	18998	18983	-0.1
1221	-	-	-	1580	575	575	-
1228	1	1	-	1589	410	410	-
1229	4	3	-25.0	159	857	829	-3.3
1230	-	-	-	1600	247	247	-
1231	8	8	-	1601	28	28	-
1232	-	-	-	1602	343	343	-
1233	-	-	-	1608	82	82	-
1234	-	-	-	1609	91	90	-1.1
1235	-	-	-	1610	110	110	-
1236	-	-	-	1618	235	235	-
1239	-	-	-	1619	4156	4145	-0.3
124	2	2	-	1620	197	197	-
1250	-	-	-	1621	93887	93887	-
1251	-	-	-	1630	446	446	-
1252	-	-	-	1631	411	411	-
1253	-	-	-	1639	224	214	-4.5
1254	-	-	-	1700	393	393	-
1255	-	-	-	1701	266	266	-
1258	-	-	-	1702	346	346	-
1259	2	2	-	1703	128	128	-
1260	-	-	-	1704	81	81	-

APPENDIX E

EFFECT OF AXIS TRANSLATION ON THE FREQUENCY OF OCCURRENCE OF EACH ICDA CATEGORY USED AS AN ADDRESS, SUBADDRESS, OR RECCODE (1976 DATA)

ICDA CATEGORY	NO. OF RECCRS ON WHICH MENTIONED AS		+/-% CHANGE	ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE
	ENTITY AXIS CODE	RECORD AXIS CODE			ENTITY AXIS CODE	RECORD AXIS CODE	
1705	3	3	-	1985	11662	11662	-
1706	163	163	-	1989	13806	13806	-
1707	209	209	-	1990	111713	110905	-0.7
1708	9	9	-	1991	5569	2950	-47.0
1709	948	940	-0.8	2040	1577	1577	-
1710	58	58	-	2041	4154	4154	-
1711	291	291	-	2049	794	788	-0.8
1712	56	56	-	2050	5241	5241	-
1713	253	253	-	2051	2304	2304	-
1719	1101	1095	-0.5	2059	549	546	-0.5
1720	3	3	-	2060	343	343	-
1721	3	3	-	2061	25	25	-
1722	26	26	-	2069	145	145	-
1723	96	96	-	2070	1878	1878	-
1724	80	80	-	2071	238	238	-
1725	-	-	-	2072	277	277	-
1726	303	303	-	2079	2039	1810	-11.2
1727	157	157	-	2105	-	-	-
1728	231	231	-	2106	2	2	-
1729	3686	3658	-0.8	2107	1	1	-
1730	28	28	-	2108	1	1	-
1731	24	24	-	2109	1	1	-
1732	153	153	-	2110	5	5	-
1733	1014	1014	-	2111	90	90	-
1734	460	460	-	2112	32	32	-
1735	18	18	-	2113	336	336	-
1736	327	316	-3.4	2114	110	110	-
1737	71	71	-	2115	21	21	-
1738	77	77	-	2116	22	22	-
1739	476	469	-1.5	2117	7	7	-
174	39231	39231	-	2119	18	18	-
180	6348	6348	-	2120	2	2	-
181	40	40	-	2121	10	10	-
1820	3137	3137	-	2122	4	4	-
1829	3893	3806	-2.2	2123	106	106	-
1830	11514	11514	-	2124	4	4	-
1831	168	168	-	2125	8	8	-
1839	5	5	-	2129	27	26	-3.7
1840	499	499	-	2130	8	8	-
1841	676	676	-	2160	-	-	-
1848	4	4	-	2161	-	-	-
1849	86	85	-1.2	2162	3	3	-
185	29189	29189	-	2168	33	33	-
186	811	811	-	2169	4	4	-
1870	308	308	-	218	166	166	-
1878	18	18	-	2190	10	10	-
1879	24	23	-4.2	2191	4	4	-
188	12631	12631	-	2199	7	7	-
1890	7935	7935	-	2200	10	10	-
1891	118	118	-	2201	125	125	-
1892	369	369	-	2202	3	3	-
1899	255	255	-	2209	35	35	-
190	470	470	-	2210	2	2	-
191	7367	7483	1.6	2211	1	1	-
1920	24	24	-	2212	1	1	-
1921	44	44	-	2218	-	-	-
1922	150	150	-	2219	3	3	-
1923	2	2	-	2220	1	1	-
1924	169	169	-	2221	-	-	-
1925	286	286	-	2228	1	1	-
1929	1977	1838	-7.0	2229	-	-	-
193	1231	1231	-	2230	27	27	-
1940	354	354	-	2231	2	2	-
1941	15	15	-	2232	2	2	-
1942	94	94	-	2233	25	25	-
1943	41	41	-	2238	3	3	-
1944	15	15	-	2239	2	2	-
1948	21	21	-	224	2	2	-
1949	5	5	-	2250	174	174	-
1950	2158	2158	-	2251	115	115	-
1951	547	547	-	2252	530	532	0.4
1959	1564	1564	-	2253	7	7	-
1960	472	421	-10.8	2254	16	16	-
1961	314	252	-19.7	2255	41	41	-
1962	230	192	-16.5	2256	2	2	-
1963	101	80	-20.8	2259	358	352	-1.7
1964	59	41	-30.5	2260	84	84	-
1967	217	185	-14.7	2261	23	23	-
1968	7	109	1457.1	2262	234	234	-
1969	1890	1890	-	2263	17	17	-
1970	17250	17250	-	2264	3	3	-
1971	977	977	-	2268	7	7	-
1972	1750	2081	18.9	2269	2	2	-
1973	846	846	-	228	218	218	-
1974	289	289	-	2300	32	32	-
1975	1631	1655	1.5	2301	76	76	-
1976	2549	2549	-	2302	19	19	-
1977	24477	24477	-	2303	198	198	-
1978	3503	3492	-0.3	2304	31	31	-
1979	1659	1659	-	2305	121	121	-
1980	664	664	-	2306	86	86	-
1981	839	839	-	2307	41	41	-
1982	848	848	-	2309	46	45	-2.2
1983	15951	15951	-	2310	6	6	-
1984	1147	1147	-	2311	24	24	-

APPENDIX E

EFFECT OF AXIS TRANSLATION ON THE FREQUENCY OF OCCURRENCE OF EACH ICDA CATEGORY USED AS AN ADDRESS, SUBADDRESS, OR RECODE (1976 DATA)

ICDA CATEGORY	NO. OF REGRDS ON WHICH MENTIONED AS		+/-% CHANGE	ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE
	ENTITY AXIS CODE	RECORD AXIS CODE			ENTITY AXIS CODE	RECORD AXIS CODE	
2312	5	5	-	2819	462	514	11.3
2313	627	625	-0.3	284	2757	2752	-0.2
2314	7	7	-	2850	239	244	2.1
2315	96	96	-	2859	19849	19717	-0.7
2319	36	33	-8.3	2869	3320	3320	-
235	51	51	-	2871	2900	2900	-
2360	-	-	-	2891	3	3	-
2361	3	3	-	2892	42	42	-
2362	1	1	-	2893	42	42	-
2368	-	-	-	2894	188	188	-
2369	3	3	-	2895	740	740	-
2373	162	162	-	2899	971	971	-
2380	5	5	-	2900	3981	4144	4.1
2381	2376	2364	-0.5	2901	991	997	0.6
2382	3	3	-	2910	634	634	-
2384	54	54	-	2911	133	133	-
2391	103	102	-1.0	2912	1	1	-
2400	-	-	-	2913	1	1	-
2401	-	-	-	2919	34	109	220.6
2409	290	279	-3.8	2949	44	435	888.6
2410	-	-	-	2950	29	29	-
2411	-	-	-	2951	132	132	-
2419	204	197	-3.4	2952	186	186	-
2420	70	81	15.7	2953	550	550	-
2421	30	37	23.3	2954	10	10	-
2422	829	811	-2.2	2955	3	3	-
2450	7	7	-	2956	6	6	-
2451	27	27	-	2957	14	14	-
2459	23	22	-4.3	2958	536	536	-
246	136	136	-	2959	945	939	-0.6
2500	2596	5941	128.9	2960	126	126	-
2509	133071	128663	-3.3	2961	32	32	-
2539	522	522	-	2962	292	292	-
254	44	44	-	2963	6	6	-
2550	37	37	-	2968	2	2	-
2551	441	440	-0.2	2969	139	139	-
2559	1103	1101	-0.2	2970	30	30	-
2560	9	9	-	2971	34	34	-
2579	1	1	-	2979	40	40	-
2589	539	536	-0.6	2980	17	17	-
2600	-	-	-	2981	3	3	-
2601	1	1	-	2982	350	350	-
2608	-	-	-	2983	-	-	-
2609	-	-	-	2989	2	2	-
261	17	17	-	299	3251	2541	-21.8
262	19	19	-	3000	271	271	-
2630	1	1	-	3001	26	26	-
2631	-	-	-	3002	3	3	-
2638	38	38	-	3003	4	4	-
2639	68	67	-1.5	3004	1501	1501	-
264	16	16	-	3005	10	10	-
2650	8	8	-	3006	-	-	-
2651	-	-	-	3007	6	6	-
2652	40	40	-	3008	4	4	-
2659	-	-	-	3009	426	408	-4.2
2660	1	1	-	3010	9	9	-
2668	-	-	-	3011	1	1	-
2669	53	52	-1.9	3012	6	6	-
268	10869	10763	-1.0	3013	4	4	-
2699	19743	19743	-	3014	2	2	-
2700	6	6	-	3015	-	-	-
2701	1	1	-	3016	1	1	-
2702	9	9	-	3017	6	6	-
2703	12	12	-	3018	5	5	-
2704	4	4	-	3019	31	31	-
2705	3	3	-	3020	-	-	-
2706	6	6	-	3021	-	-	-
2708	59	59	-	3022	-	-	-
2709	3	3	-	3023	1	1	-
2710	5	5	-	3024	-	-	-
2711	36	36	-	3025	-	-	-
2712	1	1	-	3026	1	1	-
2713	-	-	-	3027	1	1	-
2718	11	11	-	3028	-	-	-
2719	-	-	-	3029	5	5	-
2720	236	236	-	3030	3	2	-33.3
2721	1	1	-	3031	8	4	-50.0
2722	72	72	-	3032	11389	5882	-48.4
2729	8	8	-	3039	11171	7696	-31.1
2730	587	587	-	3040	198	198	-
2731	52	52	-	3041	12	12	-
2732	224	219	-2.2	3042	17	17	-
2733	18	18	-	3043	16	16	-
2734	7	7	-	3044	5	5	-
2735	11	11	-	3045	-	-	-
2736	8	8	-	3046	6	6	-
2738	221	221	-	3047	-	-	-
2739	13	12	-7.7	3048	48	48	-
274	3025	3025	-	3049	1364	1353	-0.8
280	1508	1588	5.3	3099	27590	27184	-1.5
2810	1736	1736	-	3100	-	-	-
2811	6	6	-	3108	-	-	-
2812	140	140	-	3109	5	5	-
2813	1	1	-	3110	-	-	-
2814	1	1	-	3118	-	-	-

APPENDIX E

EFFECT OF AXIS TRANSLATION ON THE FREQUENCY OF OCCURRENCE OF EACH ICDA CATEGORY USED AS AN ADDRESS, SUBADDRESS, OR RECODE (1976 DATA)

ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE	ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE
	ENTITY AXIS	RECORD AXIS			ENTITY AXIS	RECORD AXIS	
3119	37	37	-	3899	577	577	-
3120	-	-	-	390	540	112	-79.3
3128	-	-	-	3910	221	179	-19.0
3129	69	69	-	3911	8	13	62.5
3130	-	-	-	3912	2	3	50.0
3138	-	-	-	3919	9	72	700.0
3139	473	473	-	3920	-	-	-
3140	-	-	-	3929	27	26	-3.7
3148	-	-	-	393	164	166	1.2
3149	285	285	-	3940	417	2525	505.5
3150	-	-	-	3949	6314	4041	-36.0
3158	-	-	-	3950	141	938	565.2
3159	1989	1981	-0.4	3959	8921	7963	-10.7
3200	276	276	-	3960	108	838	675.9
3201	445	445	-	3969	1480	864	-41.6
3208	351	351	-	3970	309	331	7.1
3209	2197	2134	-2.9	3979	844	1015	20.3
321	88	88	-	398	8961	9156	2.2
322	580	580	-	4000	972	61	-93.7
323	677	655	-3.2	4001	3	48	1500.0
3339	161	158	-1.9	4002	-	325	...
341	95	95	-	4003	43	129	200.0
342	12593	12593	-	4009	5	219	4280.0
3430	48	48	-	401	73322	7113	-90.3
3431	414	410	-1.0	402	10825	12174	12.5
3432	3	2	-33.3	403	12663	6088	-51.9
3439	1106	1110	0.4	404	4285	4821	12.5
3440	14	14	-	4100	82	33139	40313.4
3441	17707	16191	-8.6	4109	343983	310912	-9.6
3442	1412	1403	-0.6	4110	4	1541	38425.0
3443	927	924	-0.3	4119	16663	15126	-9.2
3449	2946	2854	-3.1	4121	6649	42011	531.8
3450	37	37	-	4122	35888	35502	-1.1
3451	900	900	-	4123	468394	435126	-7.1
3452	762	762	-	4124	105087	92222	-12.2
3453	9	9	-	4130	3	690	22900.0
3454	-	-	-	4139	3802	3115	-18.1
3455	38	38	-	420	199	199	-
3459	2340	2340	-	4210	1978	1978	-
3470	16	16	-	4219	39	34	-12.8
3471	1917	1917	-	422	761	747	-1.8
3479	18575	18355	-1.2	423	4803	4765	-0.8
3481	251	251	-	4240	475	468	-1.5
3499	323	323	-	4241	1015	1008	-0.7
350	132	131	-0.8	4249	2583	2115	-18.1
3550	4	4	-	425	5810	5810	-
3551	12	12	-	426	11668	11925	2.2
3559	115	115	-	4270	168550	158251	-6.1
3570	8	8	-	4271	4104	4634	12.9
3579	803	801	-0.2	4272	203649	192798	-5.3
360	24	24	-	4273	9082	8480	-6.6
361	4	4	-	4274	18521	17066	-7.9
3630	4	4	-	4275	266	245	-7.9
3639	8	8	-	4276	18452	17238	-6.6
364	7	7	-	4279	32540	30384	-6.6
365	2	2	-	428	16738	12585	-24.8
366	21	21	-	4290	8620	7326	-15.0
367	34	34	-	4299	34880	32203	-7.7
368	1	1	-	4300	2	1526	76200.0
3699	5	5	-	4309	9162	8167	-10.9
3739	20	20	-	4310	27	8507	31407.4
3750	12	12	-	4319	36791	27463	-25.4
3751	9	9	-	4320	2	426	21200.0
3752	-	-	-	4329	4493	4067	-9.5
3759	893	893	-	4330	2	4755	237650.0
376	31	31	-	4339	63968	59176	-7.5
3770	35	35	-	4340	-	184	...
3771	46	46	-	4349	3687	3502	-5.0
3772	19	19	-	4350	-	29	...
3773	-	-	-	4359	411	381	-7.3
3774	7	7	-	4360	427	16084	3666.7
3775	5	5	-	4369	150866	134884	-10.6
3776	129	129	-	4370	216	4795	2119.9
3779	2	2	-	4379	80659	77116	-4.4
3782	8	8	-	4380	474	1806	281.0
3783	1	1	-	4389	14729	14083	-4.4
3784	12	12	-	4400	1176	1138	-3.2
3786	9	9	-	4401	180	176	-2.2
3788	1	1	-	4402	2059	1642	-20.3
3789	57	57	-	4403	215	194	-9.8
3810	9	9	-	4409	212142	204592	-3.6
3811	32	29	-9.4	4410	3049	3046	-0.1
3819	149	144	-3.4	4411	1893	1889	-0.2
3820	1	2	100.0	4412	10332	10331	-
3821	-	4	...	4419	5189	4849	-6.6
3829	-	3	...	442	4072	2637	-35.2
3830	7	6	-14.3	4430	79	79	-
3831	13	11	-15.4	4431	120	120	-
3839	34	29	-14.7	4432	-	-	-
3840	22	22	-	4438	3	3	-
3849	1	1	-	4439	5477	5473	-0.1
3879	11	11	-	4440	496	496	-
3890	28	28	-	4441	576	576	-
3891	-	-	-	4442	6316	6316	-
3892	-	-	-	4443	442	442	-

APPENDIX E

EFFECT OF AXIS TRANSLATION ON THE FREQUENCY OF OCCURRENCE OF EACH ICDA CATEGORY USED AS AN ADDRESS, SUBADDRESS, OR RECODE (1976 DATA)

ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE	ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE
	ENTITY AXIS CODE	RECORD AXIS CODE			ENTITY AXIS CODE	RECORD AXIS CODE	
4444	3090	3090	-	5301	963	963	-
4449	4460	4460	-	5303	1278	1278	-
4450	492	4405	795.3	5309	2616	2616	-
4459	10318	4412	-57.2	5310	896	3710	314.1
4469	127	127	-	5311	1340	1164	-13.1
447	2799	2799	-	5312	19	195	926.3
450	43707	43704	-	5319	5630	2754	-51.1
4510	2198	2198	-	5320	1110	2204	98.6
4519	2616	2616	-	5321	1793	1538	-14.2
452	222	222	-	5322	37	682	1743.2
453	4306	4305	-0.0	5329	3971	2411	-39.3
4540	309	336	8.7	5330	762	754	-1.0
4541	104	89	-14.4	5339	2755	2609	-5.3
4549	462	442	-4.3	5340	69	754	992.8
457	212	206	-2.8	5341	69	52	-24.6
4589	9813	9596	-2.2	5342	-	287	...
460	104	99	-4.8	5349	885	87	-90.2
4610	2	2	-	535	2335	2335	-
4611	-	-	-	5379	2344	1780	-24.1
4619	6	6	-	5400	954	1023	7.2
462	106	100	-5.7	5409	192	115	-40.1
463	34	34	-	541	205	130	-36.6
464	201	170	-15.4	542	3	3	-
465	1497	1448	-3.3	543	15	15	-
466	2927	2846	-2.8	550	878	816	-7.1
470	10419	5218	-49.9	5510	50	31	-38.0
471	441	5292	1100.0	5511	313	293	-6.4
472	103	477	363.1	5512	596	487	-18.3
473	31	93	200.0	5513	3189	3053	-4.3
474	8	32	300.0	5518	99	51	-48.5
480	2815	2588	-8.1	5519	368	295	-19.8
481	12392	12173	-1.8	552	412	473	14.8
4820	900	889	-1.2	5530	183	200	9.3
4821	67	64	-4.5	5531	121	140	15.7
4822	208	199	-4.3	5532	185	290	56.8
4823	1223	1171	-4.3	5533	71	207	191.5
4829	2537	2494	-1.7	5538	38	86	126.3
483	125	115	-8.0	5539	366	414	13.1
484	930	902	-3.0	5600	70	70	-
485	65879	64584	-2.0	5601	1387	1358	-2.1
486	103509	100128	-3.3	5602	1268	1203	-5.1
490	4115	2352	-42.8	5603	306	322	5.2
491	7332	8869	21.0	5604	5	661	13120.0
492	50333	50088	-0.5	5609	11941	10775	-9.8
493	7103	7041	-0.9	561	617	604	-2.1
500	49	49	-	5639	235	235	-
501	21	21	-	5641	139	139	-
5020	-	-	-	5649	124	124	-
5021	12	12	-	566	370	370	-
5030	12	12	-	5670	1759	1705	-3.1
5031	7	7	-	5679	9324	8546	-8.3
5039	108	107	-0.9	568	1122	384	-65.8
504	2	2	-	5690	37	37	-
505	6	6	-	5691	91	91	-
506	12	12	-	5692	951	951	-
507	21	17	-19.0	5693	1258	1257	-0.1
5080	132	132	-	5694	2657	2656	-0.0
5081	6	6	-	5699	31791	26927	-15.3
5082	171	171	-	570	1072	1071	-0.1
5083	380	380	-	5710	10011	16452	64.3
5084	13	13	-	5718	9085	7256	-20.1
5089	293	293	-	5719	27988	22388	-20.0
510	1889	1882	-0.4	572	473	469	-0.8
5110	658	648	-1.5	5730	1982	1940	-2.1
5111	6	6	-	5739	32394	32003	-1.2
5112	3819	3812	-0.2	5740	2	218	10800.0
512	2341	2341	-	5741	8	1487	18487.5
513	3117	3117	-	5749	4652	2938	-36.8
514	37333	37221	-0.3	575	5546	3850	-30.6
5150	544	508	-6.6	5760	3105	2777	-10.6
5151	2521	2484	-1.5	5761	125	95	-24.0
5152	147	143	-2.7	5769	2126	1984	-6.7
5159	1230	1201	-2.4	5770	5423	5423	-
5160	13	13	-	580	9282	9254	-0.3
5161	19	19	-	581	869	935	7.6
5162	2	2	-	582	15658	15449	-1.3
517	8799	8628	-1.9	583	1240	1088	-12.3
518	2029	2029	-	584	592	475	-19.8
5191	11603	10670	-8.0	5900	5485	5331	-2.8
5192	13626	7453	-45.3	5901	6149	5945	-3.3
5193	53384	48226	-9.7	5902	425	425	-
5199	3988	2481	-37.8	5909	339	339	-
5200	-	-	-	591	973	973	-
5201	-	-	-	592	1454	1454	-
5206	1	1	-	5931	1464	1464	-
5225	14	14	-	5932	43466	42209	-2.9
5227	-	-	-	5935	95	95	-
5243	-	-	-	595	2095	2095	-
5244	-	-	-	5960	573	573	-
5250	5	5	-	5961	30	30	-
5269	2	2	-	5969	1161	1161	-
5280	24	24	-	597	32	32	-
5285	2	2	-	598	383	383	-
5289	75	75	-	5990	15372	15372	-
5299	32	32	-	5991	49	49	-

APPENDIX E

EFFECT OF AXIS TRANSLATION ON THE FREQUENCY OF OCCURRENCE OF EACH ICDA CATEGORY USED AS AN ADDRESS, SUBADDRESS, OR RECODE (1976 DATA)

ICDA CATEGORY	NO. OF REGRDS ON WHICH MENTIONED AS		+/-% CHANGE	ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE
	ENTITY AXIS CODE	RECORD AXIS CODE			ENTITY AXIS CODE	RECORD AXIS CODE	
5992	3	3	-	653	41	41	-
5999	1439	1439	-	6540	-	-	-
601	411	411	-	6541	-	-	-
602	935	935	-	6542	-	-	-
604	72	72	-	6543	-	-	-
6073	5	5	-	6549	1	1	-
6074	1	1	-	655	4	4	-
6075	139	139	-	6560	3	3	-
6079	396	396	-	6561	-	-	-
6119	231	231	-	6562	-	-	-
612	-	-	-	6563	-	-	-
613	3	3	-	6564	1	1	-
614	56	56	-	6568	1	1	-
6150	3	3	-	6569	-	-	-
6151	1	1	-	6570	2	2	-
6152	3	3	-	6571	4	4	-
6159	55	55	-	6572	1	1	-
6160	417	417	-	6579	1	1	-
6161	9	9	-	6580	-	-	-
6162	5	5	-	6581	-	-	-
6169	57	57	-	6582	-	-	-
6200	6	6	-	6589	-	-	-
6209	7	7	-	659	5	5	-
6210	-	-	-	6600	-	-	-
6211	-	-	-	6601	2	2	-
6212	-	-	-	6609	2	2	-
6213	1	1	-	6610	8	8	-
6214	-	-	-	6611	-	-	-
6215	1	1	-	6612	1	1	-
6216	-	-	-	6613	-	-	-
6219	62	62	-	6618	14	14	-
6220	47	46	-2.1	6619	55	44	-20.0
6221	66	66	-	662	3	3	-
6240	-	-	-	670	27	27	-
6241	-	-	-	6710	-	-	-
6249	-	-	-	6719	4	4	-
627	6	6	-	672	-	-	-
6294	332	332	-	6730	3	3	-
6297	2	2	-	6731	38	38	-
6299	110	110	-	6739	35	35	-
6310	-	-	-	674	36	36	-
6311	-	-	-	675	25	25	-
6312	-	-	-	676	-	-	-
6313	-	1	...	6770	-	-	-
6314	-	-	-	6771	2	2	-
6315	14	14	-	6772	-	-	-
6316	-	-	-	6779	21	21	-
6319	32	31	-3.1	678	-	-	-
6324	9	9	-	6800	1	1	-
6329	33	33	-	6801	3	3	-
6330	-	-	-	6802	2	2	-
6331	-	-	-	6803	-	-	-
6339	2	2	-	6804	-	-	-
6349	42	42	-	6805	2	2	-
6350	2	2	-	6806	1	1	-
6351	-	-	-	6808	-	-	-
6359	-	-	-	6809	9	9	-
636	15	15	-	681	14	14	-
6370	32	32	-	6820	119	119	-
6371	52	52	-	6821	636	636	-
6379	38	36	-5.3	6822	114	114	-
6380	-	-	-	6823	18	18	-
6389	-	-	-	6824	659	659	-
6390	9	9	-	6825	156	156	-
6399	2	2	-	6829	664	664	-
6400	-	-	-	683	8	8	-
6401	-	-	-	6869	653	653	-
6402	-	-	-	6929	305	305	-
6409	3	3	-	694	350	350	-
6410	-	-	-	6954	534	531	-0.6
6411	-	-	-	6960	26	26	-
6412	-	-	-	6961	358	358	-
6419	-	-	-	7011	15	15	-
6420	-	-	-	7012	1	1	-
6421	-	-	-	702	17	17	-
6422	-	-	-	7039	-	-	-
6423	-	-	-	704	5	5	-
6429	2	2	-	7070	9674	9395	-2.9
6430	-	4	...	7071	814	741	-9.0
6431	-	2	...	7079	780	727	-6.8
6432	-	-	-	7099	57	57	-
6439	10	4	-60.0	7100	1	1	-
6440	3	5	66.7	7101	5	5	-
6441	-	2	...	7102	12	12	-
6442	-	1	...	7103	25	25	-
6449	12	7	-41.7	7109	75	75	-
6450	-	1	...	711	-	-	-
6451	-	-	-	7120	12	12	-
6452	-	-	-	7121	110	110	-
6459	1	-	-100.0	7122	-	-	-
650	9	6	-33.3	7123	8465	8465	-
6510	6	6	-	7124	287	287	-
6511	22	22	-	7125	-	-	-
6519	3	3	-	7130	8672	8681	0.1
652	9	9	-	7131	585	585	-

APPENDIX E

EFFECT OF AXIS TRANSLATION ON THE FREQUENCY OF OCCURRENCE OF EACH
ICDA CATEGORY USED AS AN ADDRESS, SUBADDRESS, OR RECODE (1976 DATA)

ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE	ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE
	ENTITY AXIS CODE	RECORD AXIS CODE			ENTITY AXIS CODE	RECORD AXIS CODE	
7132	2	2	-	7458	4	4	-
7140	9	9	-	7459	15	12	-20.0
7149	49	49	-	7460	169	169	-
715	4751	4690	-1.3	7461	439	439	-
7179	180	180	-	7462	413	413	-
718	33	33	-	7463	1060	1045	-1.4
7200	24	24	-	7464	582	582	-
7201	154	154	-	7465	151	151	-
7202	557	556	-0.2	7466	1157	1157	-
7203	5	4	-20.0	7467	160	160	-
7229	4	4	-	7468	739	739	-
7230	3077	3077	-	7469	3509	2442	-30.4
7239	342	342	-	7470	755	755	-
7250	34	34	-	7471	318	318	-
7251	64	64	-	7472	141	138	-2.1
7258	7	7	-	7473	282	265	-6.0
7259	116	116	-	7474	128	128	-
7270	28	28	-	7475	13	13	-
7271	-	-	-	7476	425	368	-13.4
7272	-	-	-	7478	358	271	-24.3
7273	1	1	-	7479	148	136	-8.1
7274	-	-	-	7480	18	18	-
7275	13	13	-	7481	11	11	-
7276	9	9	-	7482	1	1	-
7277	1	1	-	7483	420	420	-
7278	9	9	-	7484	91	91	-
7279	38	38	-	7485	54	54	-
7289	78	78	-	7486	1079	1079	-
7290	1	1	-	7488	3	3	-
7291	18	18	-	7489	28	28	-
7292	2	2	-	7490	169	89	-47.3
7293	2	2	-	7491	86	6	-93.0
7294	1	1	-	7492	4	84	2000.0
7295	548	548	-	7500	6	6	-
7296	1	1	-	7501	9	9	-
7297	-	-	-	7502	62	62	-
7298	65	65	-	7503	86	86	-
7299	129	129	-	7508	135	135	-
7310	-	-	-	7509	17	16	-5.9
7311	12	12	-	7510	62	62	-
7312	5	5	-	7511	61	61	-
7313	-	-	-	7512	65	65	-
7314	1	1	-	7513	105	105	-
7315	5	5	-	7514	172	172	-
7316	6	6	-	7515	159	159	-
7317	-	-	-	7516	100	100	-
7318	1	1	-	7517	15	15	-
7319	28	28	-	7518	6	6	-
7331	91	91	-	7519	14	13	-7.1
7339	326	326	-	7520	6	6	-
7341	1252	1255	0.2	7521	14	14	-
7350	192	151	-21.4	7522	14	14	-
7351	272	179	-34.2	7523	1	1	-
7352	533	387	-27.4	7524	2	2	-
7359	26	19	-26.9	7525	15	15	-
736	-	-	-	7526	9	9	-
7370	3	3	-	7527	4	4	-
7371	1	1	-	7528	20	20	-
7380	-	-	-	7529	29	29	-
7381	3	3	-	7530	452	452	-
7382	14	14	-	7531	1163	1163	-
7383	4	4	-	7532	65	65	-
7384	6	6	-	7533	88	88	-
7385	156	156	-	7534	21	21	-
7386	7	7	-	7535	14	14	-
7387	4	4	-	7536	24	24	-
7388	118	118	-	7538	35	35	-
7389	202	201	-0.5	7539	111	95	-14.4
740	814	814	-	7540	1	1	-
7410	57	365	540.4	7541	11	11	-
7419	581	251	-56.8	7542	-	-	-
742	1078	757	-29.8	7548	2	2	-
7430	141	141	-	7549	57	57	-
7431	375	375	-	7550	19	19	-
7432	142	142	-	7551	11	11	-
7433	18	18	-	7552	15	15	-
7434	213	213	-	7553	11	11	-
7438	19	19	-	7554	8	8	-
7439	350	271	-22.6	7555	41	41	-
7440	16	16	-	7556	27	27	-
7441	14	14	-	7557	55	55	-
7442	3	3	-	7558	18	18	-
7443	6	6	-	7559	15	15	-
7444	3	3	-	7560	113	97	-14.2
7445	-	-	-	7561	30	30	-
7446	14	14	-	7562	135	135	-
7447	2	2	-	7563	-	-	-
7448	4	4	-	7564	77	77	-
7449	7	6	-14.3	7565	102	102	-
7450	6	6	-	7566	87	87	-
7451	-	-	-	7567	59	59	-
7452	9	9	-	7568	142	141	-0.7
7453	15	15	-	7569	53	44	-17.0
7454	4	4	-	7570	6	6	-
7455	4	4	-	7571	8	8	-

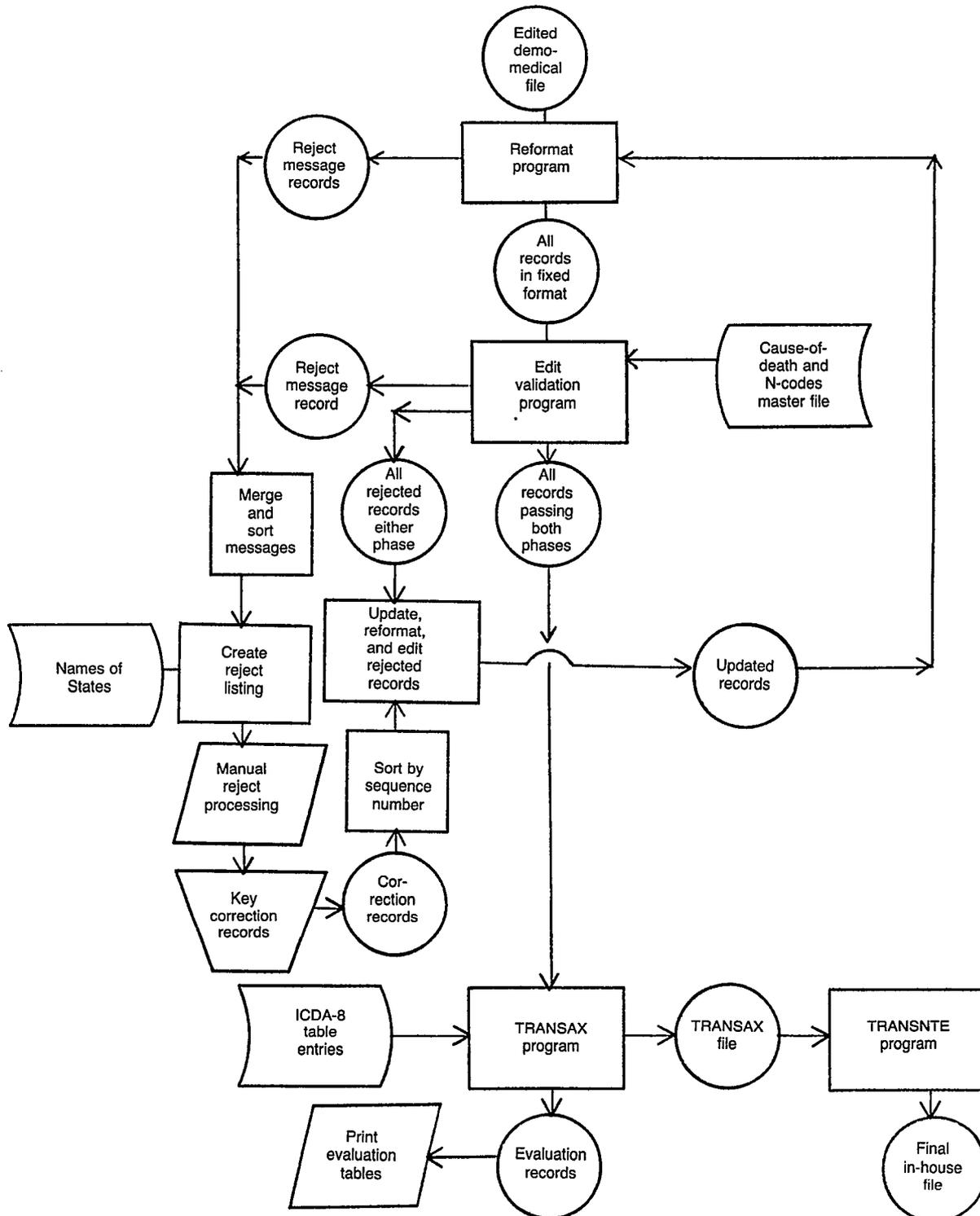
APPENDIX E

EFFECT OF AXIS TRANSLATION ON THE FREQUENCY OF OCCURRENCE OF EACH
ICDA CATEGORY USED AS AN ADDRESS, SUBADDRESS, OR RECODE (1976 DATA)

ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE	ICDA CATEGORY	NO. OF RECORDS ON WHICH MENTIONED AS		+/-% CHANGE
	ENTITY AXIS CODE	RECORD AXIS CODE			ENTITY AXIS CODE	RECORD AXIS CODE	
7572	78	78	-				
7573	1	1	-				
7574	-	-	-				
7579	3	3	-				
7580	47	47	-				
7581	46	46	-				
7582	7	7	-				
7583	28	28	-				
7588	142	142	-				
7589	378	199	-47.4				
7590	29	29	-				
7591	34	34	-				
7592	53	53	-				
7593	995	995	-				
7594	546	546	-				
7595	48	48	-				
7596	47	47	-				
7598	234	234	-				
7599	1773	970	-45.3				
7640	-	1	...				
7641	-	-	-				
7642	-	-	-				
7643	-	-	-				
7644	-	11	...				
7649	21	9	-57.1				
7650	-	5	...				
7651	-	-	-				
7652	-	-	-				
7653	-	5	...				
7654	-	13	...				
7659	26	4	-84.6				
7660	-	30	...				
7661	-	2	...				
7662	-	3	...				
7663	-	10	...				
7664	-	119	...				
7669	218	59	-72.9				
7670	-	10	...				
7671	-	-	-				
7672	-	-	-				
7673	-	1	...				
7674	-	14	...				
7679	38	13	-65.8				
7680	-	19	...				
7681	-	-	-				
7682	-	1	...				
7683	-	1	...				
7684	-	49	...				
7689	89	20	-77.5				
7710	40	40	-				
7711	137	137	-				
7720	2629	2568	-2.3				
7721	9	7	-22.2				
7722	31	27	-12.9				
7729	234	217	-7.3				
7740	1	1	-				
7741	-	1	...				
7742	-	-	-				
7749	25	24	-4.0				
7750	62	62	-				
7751	13	12	-7.7				
7752	6	6	-				
7759	374	324	-13.4				
7760	763	754	-1.2				
7761	4466	4437	-0.6				
7762	6355	6311	-0.7				
7763	182	167	-8.2				
7764	127	124	-2.4				
7769	10004	6966	-30.4				
7789	9669	9669	-				
7800	6481	5579	-13.9				
7804	138	138	-				
7810	11	11	-				
7811	10	10	-				
7815	1773	1773	-				
7816	18	18	-				
7817	2149	2080	-3.2				
7824	83507	81845	-2.0				
7826	3492	3424	-1.9				
7828	343	343	-				
7831	3799	3796	-0.1				
7833	69	66	-4.3				
7845	3184	1986	-37.6				
7853	5311	5310	-0.0				
7857	110	109	-0.9				
7880	25404	22599	-11.0				
7882	24	24	-				
7890	21	21	-				
792	40652	40185	-1.1				
794	29071	28747	-1.1				

Appendix F

Mortality data system flow chart from ICDA-8



Appendix G

ICDA–8 multiple cause-of-death public use tape format for data years 1968–78

<i>Tape location</i>	<i>Size of field</i>	<i>Item and code outline</i>
1	1	Last digit of data year 8...1968 or 1978 9...1969 0...1970 1...1971 2...1972 3...1973 4...1974 5...1975 6...1976 7...1977
2–3	2	Shipment number Shipments from each reporting area are numbered consecutively beginning with 01.
4	1	Reporting area The following codes, when used with the State-of-occurrence codes, tape locations 26–27, identify separate reporting areas. 1...Bronx Borough 2...Brooklyn Borough 3...Manhattan Borough 4...Queens Borough 5...Richmond Borough 6...Chicago 0...All other areas
5–10	6	Certificate number These positions are blank.
11	1	Record type (computer generated) 1...Residents State and county of occurrence and residence are the same. 2...Nonresidents State and/or county of occurrence and residence are different.
12	1	Resident status (computer generated) 1...Residents State and county of occurrence and residence are the same. 2...Intrastate nonresidents State of occurrence and residence are the same but county is different. 3...Interstate nonresidents State of occurrence and residence are different but both are in the United States. 4...Foreign residents (Not applicable to 1968–69 data.) State of occurrence is one of the 50 States or the District of Columbia, but place of residence is outside the United States.
13–25	13	Place of residence 1968–69 data Refer to the <i>Vital Statistics Instruction Manual, Geographic Reference Manual: Codes Used in Computer Operations Effective With 1962 Data</i> for a complete list of areas with codes. 1970–78 data Refer to the <i>Geographic Code Manual: Codes Used in Computer Processing Effective With 1970 Data</i> for a complete list of areas and codes. Foreign residents were not uniquely identified in 1968 or 1969. The place of residence was allocated to the place of occurrence (State and county).

<i>Tape location</i>	<i>Size of field</i>	<i>Item and code outline</i>
13-14	2	<p>State</p> <p>01-51...Each State and the District of Columbia are numbered alphabetically.</p> <p>Foreign residents (Not applicable to 1968-69)</p> <p>52...Puerto Rico</p> <p>53...Virgin Islands</p> <p>54...Guam</p> <p>55...Canada</p> <p>56...Cuba</p> <p>57...Mexico</p> <p>58...Other western hemisphere</p> <p>59...Remainder of the world</p> <p>Code 58 was deleted in 1978.</p>
15-17	3	<p>County</p> <p>001-nnn...Counties and county equivalents are numbered alphabetically within each State.</p> <p>ZZZ...Foreign residents (not applicable to 1968-69)</p>
18-20	3	<p>City</p> <p>001-nnn...Cities are numbered alphabetically within each State and identify each city with a population of 250,000 or more.</p> <p>999...Balance of county</p> <p>ZZZ...Foreign residents (not applicable to 1968-69)</p> <p>1968-69 data</p> <p>Population is based on the 1960 Census.</p> <p>1970-78 data</p> <p>Population is based on the 1970 Census.</p>
21	1	<p>Population size of city of residence</p> <p>0 . . 1,000,000 or more</p> <p>1 500,000 to 1,000,000</p> <p>2 250,000 to 500,000</p> <p>3 100,000 to 250,000</p> <p>4 50,000 to 100,000</p> <p>5 25,000 to 50,000</p> <p>6 10,000 to 25,000</p> <p>9 . . All other areas in the United States</p> <p>Z . . Foreign residents (not applicable to 1968-69)</p>
22-24	3	<p>Standard metropolitan statistical areas (SMSA)</p> <p>1968-78 data</p> <p>000... Nonmetropolitan counties except those coded &&&</p> <p>&&&...Nonmetropolitan counties included in the standard consolidated areas</p> <p>1968-69 data</p> <p>001-201...The 201 SMSA's established in 1960</p> <p>1970-78 data</p> <p>001-229...The 229 SMSA's established in 1970</p> <p>ZZZ...Foreign residents</p>
25	1	<p>Metropolitan-nonmetropolitan county of residence</p> <p>1...Metropolitan county</p> <p>2...Nonmetropolitan county</p> <p>Z...Foreign residents (not applicable to 1968-69)</p>
26-30	5	<p>Place of occurrence</p> <p>1968-69 data</p> <p>Refer to the <i>Vital Statistics Instruction Manual, Geographic Reference Manual: Codes Used in Computer Operations Effective With 1962 Data</i> for a complete list of areas and codes.</p> <p>1970-78 data</p> <p>Refer to the <i>Geographic Code Manual: Codes Used in Computer Processing Effective With 1970 Data</i> for a complete list of areas and codes.</p>
26-27	2	<p>State</p> <p>01-51...Each State and the District of Columbia are numbered alphabetically.</p>

<i>Tape location</i>	<i>Size of field</i>	<i>Item and code outline</i>
28-30	3	County 001-nnn...Counties and county equivalents are numbered alphabetically within each State.
31-34	4	Date of death ^a
31-32	2	Month of death 01...January 02...February 03...March 04...April 05...May 06...June 07...July 08...August 09...September 10...October 11...November 12...December
33-34	2	Day of death 01-31...As applicable to month of death 99...Day of death not stated For 1968-71 data, day of death was not coded.
35	1	Sex 1...Male 2...Female
36-38	3	Race
36	1	Detail race 0...Guamian 1...White 2...Black 3...Indian (includes Aleuts and Eskimos) 4...Chinese 5...Japanese 6...Hawaiian (includes part-Hawaiian) 7...All other races 8...Filipino Codes 0 and 8 are not used for 1968 data. For 1978 data, code 0 is defined as "Other Asian or Pacific Islander."
37	1	Race recode 2 (computer generated) 1...White 2...All other races
38	1	Race recode 3 (computer generated) 1...White 2...Black 3...Other races
39-47	9	Age at death

^aYear of death is identified in tape location 1.

<i>Tape location</i>	<i>Size of field</i>	<i>Item and code outline</i>																											
39-41	3	Detail age Three positions are used to code detail age. Location 39 identifies age in years, months, weeks, days, hours, or minutes. Locations 40-41 are the number of years, months, weeks, days, hours, or minutes.																											
		<table border="0"> <thead> <tr> <th style="text-align: center;"><i>Location 39</i></th> <th></th> <th style="text-align: center;"><i>Locations 40-41^f</i></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td>Years under 100</td> <td style="text-align: center;">01-99</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Years 100 and over</td> <td style="text-align: center;">01-99</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Months</td> <td style="text-align: center;">01-11, 99</td> </tr> <tr> <td style="text-align: center;">3</td> <td>Weeks</td> <td style="text-align: center;">01-03, 99</td> </tr> <tr> <td style="text-align: center;">4</td> <td>Days</td> <td style="text-align: center;">01-27, 99</td> </tr> <tr> <td style="text-align: center;">5</td> <td>Hours</td> <td style="text-align: center;">01-23, 99</td> </tr> <tr> <td style="text-align: center;">6</td> <td>Minutes</td> <td style="text-align: center;">01-59, 99</td> </tr> <tr> <td style="text-align: center;">9</td> <td>Age not stated</td> <td style="text-align: center;">99</td> </tr> </tbody> </table>	<i>Location 39</i>		<i>Locations 40-41^f</i>	0	Years under 100	01-99	1	Years 100 and over	01-99	2	Months	01-11, 99	3	Weeks	01-03, 99	4	Days	01-27, 99	5	Hours	01-23, 99	6	Minutes	01-59, 99	9	Age not stated	99
<i>Location 39</i>		<i>Locations 40-41^f</i>																											
0	Years under 100	01-99																											
1	Years 100 and over	01-99																											
2	Months	01-11, 99																											
3	Weeks	01-03, 99																											
4	Days	01-27, 99																											
5	Hours	01-23, 99																											
6	Minutes	01-59, 99																											
9	Age not stated	99																											
42-43	2	Age recode 12 01...Under 1 year 02...1-4 years 03...5-14 years 04...15-24 years 05...25-34 years 06...35-44 years 07...45-54 years 08...55-64 years 09...65-74 years 10...75-84 years 11...85 years and over 12...Age not stated																											
44-45	2	Age recode 27 01...Under 1 month 02...1 month-11 months 03...1 year 04...2 years 05...3 years 06...4 years 07...5-9 years 08...10-14 years 09...15-19 years 10...20-24 years 11...25-29 years 12...30-34 years 13...35-39 years 14...40-44 years 15...45-49 years 16...50-54 years 17...55-59 years 18...60-64 years 19...65-69 years 20...70-74 years 21...75-79 years 22...80-84 years 23...85-89 years 24...90-94 years 25...95-99 years 26...100 years and over 27...Age not stated																											

^fUnknown in infant age are recoded:

<i>Code and meaning</i>	<i>Tape locations</i>		
	<i>42-43</i>	<i>44-45</i>	<i>46-47</i>
299-Months	01	02	12
399-Weeks	01	01	09
499-Days	01	01	03
599-Hours	01	01	01
699-Minutes	01	01	01

Tape
location

Size of
field

Item and code outline

46-47 2 Infant age recode 22

Blank...Age 1 year and over or not stated
01...Under 1 hour
02...1-23 hours
03...1 day
04...2 days
05...3 days
06...4 days
07...5 days
08...6 days
09...7-13 days
10...14-20 days
11...21-27 days
12...1 month
13...2 months
14...3 months
15...4 months
16...5 months
17...6 months
18...7 months
19...8 months
20...9 months
21...10 months
22...11 months

48-49 2 Division and State subcode of residence

States are coded within Division. The code structure is designed to sequence the States as they appear in NCHS publications.
Location 48 identifies the Division, and location 49 identifies States within that Division.
00...Foreign residents (not applicable to 1968-69)

Location 48	Location 49
1	New England 1...Maine 2...New Hampshire 3...Vermont 4...Massachusetts 5...Rhode Island 6...Connecticut
2	Middle Atlantic 1...New York 2...New Jersey 3...Pennsylvania
3	East North Central 1...Ohio 2...Indiana 3...Illinois 4...Michigan 5...Wisconsin
4	West North Central 1...Minnesota 2...Iowa 3...Missouri 4...North Dakota 5...South Dakota 6...Nebraska 7...Kansas
5	South Atlantic 1...Delaware 2...Maryland 3...District of Columbia 4...Virginia 5...West Virginia 6...North Carolina 7...South Carolina 8...Georgia 9...Florida

- | | |
|-------------|--------------------|
| 6 | East South Central |
| | 1...Kentucky |
| | 2...Tennessee |
| | 3...Alabama |
| | 4...Mississippi |
| 7 | West South Central |
| | 1...Arkansas |
| | 2...Louisiana |
| | 3...Oklahoma |
| | 4...Texas |
| 8 | Mountain |
| | 1...Montana |
| | 2...Idaho |
| | 3...Wyoming |
| | 4...Colorado |
| | 5...New Mexico |
| | 6...Arizona |
| | 7...Utah |
| | 8...Nevada |
| 9 | Pacific |
| | 1...Washington |
| | 2...Oregon |
| | 3...California |
| | 4...Alaska |
| | 5...Hawaii |

50-51

2

Division and State subcode of occurrence

States are coded within Divisions. The code structure is designed to sequence the States as they appear in NCHS publications. Location 50 identifies the Division, and location 51 identifies States within that Division

Location 50	Location 51
1	New England
	1...Maine
	2...New Hampshire
	3...Vermont
	4...Massachusetts
	5...Rhode Island
	6...Connecticut
2	Middle Atlantic
	1...New York
	2...New Jersey
	3...Pennsylvania
3	East North Central
	1...Ohio
	2...Indiana
	3...Illinois
	4...Michigan
	5...Wisconsin
4	West North Central
	1...Minnesota
	2...Iowa
	3...Missouri
	4...North Dakota
	5...South Dakota
	6...Nebraska
	7...Kansas
5	South Atlantic
	1...Delaware
	2...Maryland
	3...District of Columbia
	4...Virginia
	5...West Virginia
	6...North Carolina
	7...South Carolina
	8...Georgia
	9...Florida

<i>Tape location</i>	<i>Size of field</i>	<i>Item and code outline</i>
	6	East South Central 1...Kentucky 2...Tennessee 3...Alabama 4...Mississippi
	7	West South Central 1...Arkansas 2...Louisiana 3...Oklahoma 4...Texas
	8	Mountain 1...Montana 2...Idaho 3...Wyoming 4...Colorado 5...New Mexico 6...Arizona 7...Utah 8...Nevada
	9	Pacific 1...Washington 2...Oregon 3...California 4...Alaska 5...Hawaii
52	1	Autopsy performed 1...Yes 2...No 8...Item not on certificate 9...Not stated Item was not coded for 1968–71 data.
53	1	Finding used 1...Yes 2...No 8...Item not on certificate 9...Not stated Item was not coded for 1968–71 data.
54–57	4	Used for internal processing.
58–59	2	Used for internal processing.
60–63	4	Underlying cause of death See the <i>Eighth Revision International Classification of Diseases</i> , Vol. 1, adapted for use in the United States. For accidents, poisonings and violence, the external cause of injury (E800–E999) is coded. The nature of injury (800–999) is not coded. These positions do not include the letter E for the external cause of injury. For those underlying causes that do not have a 4th digit, location 63 is blank (Hex 40).
64–68	5	281 cause recode A recode of the underlying cause into 281 groups for NCHS publications. 00200–33800...Code range (not inclusive)
69–71	3	69 cause recode A recode of the underlying cause into 69 groups for NCHS publications. 010–810...Code range (not inclusive)
72–74	3	65 infant cause recode A recode of the underlying cause into 65 groups for NCHS publications. 010–710...Code range (not inclusive)
75–77	3	34 cause recode A recode of the underlying cause into 34 groups for NCHS publications. 010–370...Code range (not inclusive)
78–90	13	Used for internal processing.

<i>Tape location</i>	<i>Size of field</i>	<i>Item and code outline</i>
91	1	Place of accident code for causes E850–E929 Blank...Causes other than E850–E929 0...Home 1...Farm 2...Mine and quarry 3...Industrial place and premises 4...Place of recreation and sport 5...Street and highway 6...Public building 7...Resident institution 8...Other specified places 9...Place not specified Item was not coded for 1968 data.
92–98	7	Sequence number (computer generated) 0000001–nnnnnn...Each record in a data year is assigned a unique number.
99–100	2	Number of entity axis codes 01–14...Code range
101–212	112	Entity axis condition codes Space has been provided for a maximum of 14 condition codes. Each code is eight digits. Records that do not have 14 condition codes are padded with blanks. Digit 1 Part and line number 1...Part I, line 1 (a) 2...Part I, line 2 (b) 3...Part I, line 3 (c) 4...Part I, line 4 (d) 5...Part II Digits 2–3 Sequence of condition code within part/line Digits 4–7 Condition code See the <i>Eighth Revision, International Classification of Diseases</i> , Vol. 1, adapted for use in the United States. Digit 8 Nature-of-injury flag 1...The code in digits 4–7 is a nature-of-injury code. 0...All other codes
101–108	8	1st 8-digit code
109–116	8	2nd 8-digit code
117–124	8	3rd 8-digit code
125–132	8	4th 8-digit code
133–140	8	5th 8-digit code
141–148	8	6th 8-digit code
149–156	8	7th 8-digit code
157–164	8	8th 8-digit code
165–172	8	9th 8-digit code
173–180	8	10th 8-digit code
181–188	8	11th 8-digit code
189–196	8	12th 8-digit code
197–204	8	13th 8-digit code
205–212	8	14th 8-digit code
213–214	2	Number of record axis condition codes 01–14...Code range

<i>Tape location</i>	<i>Size of field</i>	<i>Item and code outline</i>
215-284	70	Record axis condition codes Space has been provided for a maximum of 14 condition codes. Each code is five digits. Records that do not have 14 condition codes are padded with blanks. Digits 1-4 Condition code See the <i>Eighth Revision, International Classification of Diseases, Adapted</i> , Vol. 1, adapted for use in the United States. Digit 5 Nature-of-injury flag 1...The code in digits 1-4 is a nature-of-injury code 0...All other codes
215-219	5	1st 5-digit code
220-224	5	2nd 5-digit code
225-229	5	3rd 5-digit code
230-234	5	4th 5-digit code
235-239	5	5th 5-digit code
240-244	5	6th 5-digit code
245-249	5	7th 5-digit code
250-254	5	8th 5-digit code
255-259	5	9th 5-digit code
260-264	5	10th 5-digit code
265-269	5	11th 5-digit code
270-274	5	12th 5-digit code
275-279	5	13th 5-digit code
280-284	5	14th 5-digit code
285	1	Used for internal processing only.

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