CRM Art and Architectural Argumentation Conceptual Model Specification

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Introduction

This document represents the formal specification for an unofficial formal extension of the CIDOC CRM designed for application in the area of art and architectural historical research. The scope of this extension is to support art and architectural research in the sense of the study of primary and secondary documents for the derivation, manually and programmatically, of historically contextual facts that can be used to support reflection and structured argumentation. The core expressivity that this extension adds is the ability to accurately express historically bound, contextual social facts relative to the agents holding those beliefs and the temporal period for which those beliefs were valid. The extension enables this expressivity by introducing the notions of institutional fact and speech act as core modelling concepts. Institutional facts are collective beliefs held by groups for period of time about the world. Such collective beliefs while subjectively grounded are epistemically objective for the community over which they hold sway. Introducing the notion of institutional fact allows for a specialization of the core CRM to be able to express these social realities (expressed in simple, agristic binary properties in the core CRM) in their full social complexity as temporally and socially bound beliefs. The concomitant core notion introduced in this extension is the idea of Speech Act in the Austinian and Serlean sense. A speech act is a kind of intentional event (E7 Activity of CRM base) in which agents purposefully apply a rule and perform a set ritual in order to bring about a new social state or institutional fact. Introducing the notion of speech act provides both a high level ontological category and set of relations for describing the kinds of events which are the cause of institutional facts as well as providing a starting point for the analysis of the non truth propositional use of information objects. In speech acts, information objects (e.g. phrases and formulae) are deployed not to convey states of the world but to generate states of the world. The subject of historical investigation is not simply the bare facts available to an empirical analysis of the physical world but involves an investigation of the social activities which generated contexts of understanding and belief that may differ significantly over times and peoples. Materializing the social relations represented in CRM base as institutional facts gives them a better ontological position and offer a better epistemological approach to their study by recognizing social, negotiated facts as objective realities in themselves and treating them as first class entities of study. This involves a departure from the aims of CRM base which is guided by an information integration functionality which favours the representation of the latest state of knowledge in a presentist perspective. In the study of the history of art and architecture it is in no small part the different non-coinciding facts held or supported by different entities over different times which are of interest. The materialization of institutional facts supports the information management functionality which guides this informal extension of the CIDOC CRM which aims to support historians in representing the positive knowledge they can gather from primary and secondary evidence of both past simple and institutional facts for the purposes of proposing hypotheses and analyses of texts, authors, periods, works and so on. In this regard, CRMAnA also provides an initial limited set of classes for describing traditional and digital methods of deriving facts from texts, in order to support the linking of contemporary research processes as provenance nodes for the different data points of simple and institutional facts which they generate in the course of their research.

This unofficial extension of the CIDOC CRM is formulated in relation to:

CIDOC CRM v.7.01 CIDOC CRM Inf v.0.10.1 CIDOC CRM Sci v. 1.2.8

The specification consists of the a set of declarations for formalized classes and properties that extend the CIDOC CRM and the above official extensions.

Adopting the conventions of the CIDOC CRM each class and property have been given an identifier in addition to their names. The naming convention adopted for this extension is:

ZE = class ZP = property

The choice of these names was arbitrary, making a conceptual connection with the official CRM representation while clearly distinguishing the new classes and properties from those of either CMR base or other extensions.

Hierarchical Presentation

Class Hierarchy E1 CRM Entity **E2** Temporal Entity ZE1 Institutional Fact **ZE2 Appellative Status ZE3 Contact Status ZE4 Classificatory Status ZE5 Function Status ZE6 Social Status ZE7 Custodial Status** ZE8 Ownership Status **ZE9 Residential Status ZE10 Family Status ZE11 Membership Status ZE12 Referential Status ZE14 Similarity Status ZE15 Set Status ZE25 Dating Status** E4 Period E5 Event E63 Beginning of Existence E65 Creation E7 Activity **I1** Argumentation **ZE18 Critical Reading** E65 Creation **D7 Digital Machine Event ZE17 Digital Reading** E11 Modification **D7** Digital Machine Event **ZE17 Digital Reading ZE16 Utterance Event** ZE13 Speech Act **ZE17 Digital Reading ZE18 Critical Reading** E13 Attribute Assignment ZE19 Naming **ZE26 Dating Declaration**

E15 Identifier Assignment E17 Type Assignment

E8 Acquisition

ZE20 Declarative Acquisition

E10 Transfer of Custody

ZE21 Declarative Transfer of Custody

E85 Joining

ZE22 Declarative Joining

E86 Leaving

ZE23 Declarative Leaving

E77 Persistent Item E70 Thing

E71 Human-Made Thing
E28 Conceptual Object

ZE24 Notional Set

Property Hierarchy

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ZP1 has intentional subject [D: ZE1, R: E1]
       ZP5 has appellative subject [D:ZE2, R:E1]
              ZP8 has contact subject [D:ZE3, R:E39]
       ZP11 has classificatory subject [D:ZE4, R:E1]
              ZP14 has functional subject [D:ZE5, R:E72]
              ZP17 has social subject [D:ZE6, R:E39]
       ZP20 has custodial subject [D:ZE7, R:E19]
       ZP23 has ownership subject [D:ZE8, R:E72]
       ZP26 has residence subject [D:ZE9, R:E39]
       ZP29 has family subject [D:ZE10, R:E21]
       ZP32 has membership subject [D:ZE11, R:E39]
       ZP35 has referential subject [D:ZE11, R:E89]
ZP2 ascribes intentional target [D: ZE1, R:E1]
       ZP6 ascribes appellation [D: ZE2, R:E41]
              ZP9 ascribes contact point [D:ZE3,R: E41]
       ZP12 ascribes classification [D:ZE4, R:E55]
              ZP15 ascribes function [D:ZE5, R:E55]
              ZP18 ascribes social status [D:ZE6, R:E55]
       ZP21 ascribes custodian [D:ZE7, R:E39]
       ZP24 ascribes owner [D:ZE8, R:E39]
       ZP27 ascribes residence place [D:ZE9, R:E53]
       ZP30 ascribes relative [D:ZE10, R:E21]
       ZP33 ascribes group [D:ZE11, R:E74]
       ZP36 ascribes referent [D:ZE12, R:E1]
ZP3 ascribes intentional relation [D: ZE1, R:E55]
       ZP7 ascribes appellative relation [D: ZE1, R:E55]
              ZP10 ascribes contact point relation [D: ZE3, R:E55]
       ZP13 ascribes classification relation [D: ZE4, R:E55]
              ZP16 ascribes functional relation [D: ZE5, R:E55]
              ZP19 ascribes social status relation [D: ZE6, R:E55]
       ZP22 ascribes custodial relation [D: ZE7, R:E55]
       ZP25 ascribes ownership relation [D: ZE8, R:E55]
       ZP28 ascribes residence relation [D: ZE9, R:E55]
       ZP31 ascribes family relation [D: ZE10, R:E55]
       ZP34 ascribes group relation [D: ZE11, R:E55]
       ZP37 ascribes referential relation [D: ZE12, R:E55]
       ZP38 ascribes referential mode [D: ZE12, R:E55]
ZP4 holds for [D: ZE1, R:E74]
P16 used specific object
       ZP41 utters [D: ZE13, R:E33]
P33 used specific technique
       ZP39 invokes [D: ZE13, R:E29]
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ZP40 performs [D: ZE13, R:E29]

O13 triggers

ZP42 intentionally initiates [D: ZE13, R:ZE1]

ZP54 ascribes date

ZP55 has dating subject ZP56 ascribes dating relation

Classes

#	ZE1
Label	Institutional Fact
Superclass of	
Subclass of	E2 Temporal Entity
Scope Note	An instance of institutional fact is an ascription of a status function to an object by a community. The institutional fact is a concretization of a collective intentionality of the community in question towards a certain object over a certain period. An instance of institutional fact is recognizable to a competent speaker/member of a symbolic community (native or learner with sufficient progress, e.g. anthropologist). An instance of institutional fact may not be perceived through a single sense impression but through multiple experiences and implicit reasonings (e.g.: the behaviour of a child to an elder, and linguistic evidence and interview), yet typically such intermediate observations and inferences are not necessarily recorded or accessible. The historical statement is typically the assertion of the institutional fact, that such and such a fact was the case, and in force, at some time. The epistemic veridicality of the stated /reference instance of institutional fact is always open to contestation. The means of contestation involve analyzing the sources which support it. Instances of institutional fact come into existence based on conventions establishing the conditions under which they come into effect. Typically, an instance of institutional fact will come into existence either because of the performance of its stipulated, initiating speech act (e.g.: state of being married via marriage) or as a result of events fulfilling existing norm prescriptions in the community (e.g.: state of being father as result of birth of child of sister). An institutional fact comes to be through the agreed fiat of a community. It typically ceases to exist either because of a stipulated, nullifying speech act (e.g. divorce proceeding), because a community ceases to support the effective rule supporting its declaration (e.g.: ownership of people) or force majeure (e.g.: object ascribed function/status or community perceiving status is eliminated).
Example	
Properties	ZP1 has intentional subject ZP2 ascribes intentional target ZP3 ascribes intentional relation ZP4 holds for

#	ZE2
Label	Appellative Status
Superclass of	ZE3 Contact Status
Subclass of	ZE1 Institutional Fact
Scope Note	An instance of appellative status is the collective ascription of an appellation to an object by a community. The substance of the appellative status is the communal commitment to the naming of the object in question with a designated appellation, under a designated modality. Instances of appellative status are recognizable through evidence of community members adopting the intentional stance of so-naming towards the object in question, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (Naming) initiating this status. Examples of such evidence include, several individuals so naming a thing, a witness declaring that a thing is 'so named, by us' or through documents reporting this fact. Instances of appellative status may come to be through a formal process such as a declarative act of naming, or may have arisen through habit, fiat or be of unknown origin. Instances of appellative status may end either though a formal process, such as a new declarative act of naming, the formal stripping of a name, or may simply fade out of use, be eliminated by fiat or be of unknown reason.
Example	The appellative status of the Polity of Macedonia (E74) as "is identified by" the Former Yugoslavian Republic of Macedonia (E41) 1991-2019 by the Greek Polity (E74) https://en.wikipedia.org/wiki/North_Macedonia#Names_and_etymology The appellative status for the city of 'Mumbai' as "is identified by" "Mumbai" E41 1995-Present by the Indian Polity (E74) https://www.hindustantimes.com/india/what-s-in-a-name-mumbai-20-year-s-on-from-bombay/story-8WiPZO0gfHDOle6WptGaGO.html
Properties	ZP5 has appellative subject ZP6 ascribes appellation ZP7 ascribes appellative relation

#	ZE3
Label	Contact Status

Superclass of	
Subclass of	ZE2 Appellative Status
Scope Note	An instance of contact status is the collective ascription of a contact point to an actor by a community. The substance of the contact status is the communal commitment to the addressing of messages to the actor in question according to a designated contact point appellation, using the implied message exchanging method. Instances of contact status are recognizable through evidence of community members adopting the intentional stance of so-addressing messages to the actor in question, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (Identifier Assignment) initiating this status. Examples of such evidence include, several individuals so addressing messages to an actor via this contact point appellation, a witness declaring that an actor can so be reached by us or through documents reporting this fact. Instances of contact status may come to be through a formal process such as a declarative act of identifier assignment, or may have arisen through habit, fiat or be of unknown origin. Instances of contact status may end either though a formal process, such as a new declarative act of identifier assignment, through formal assignment, or may simply fade out of use, be eliminated by fiat or for unknown reasons.
Example	The contact point status of George Bruseker as "has contact point" Leoforos Minoos 4, Heraklion 2016-2019 held by National Bank of Greece (E74)
Properties	ZP8 has contact subject ZP9 ascribes contact point ZP10 ascribes contact point relation

#	ZE4
Label	Classificatory Status
Superclass of	
Subclass of	ZE1 Institutional Fact
Scope Note	An instance of classificatory status is the collective ascription of a type to an object by a community. The substance of the classificatory status is the communal commitment to the classification of the object in question

	according to the designated type. Instances of classificatory status are recognizable through evidence of community members adopting the intentional stance of so-classifying the object in question, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (Type Assignment) initiating this status. Instances of classificatory status may come to be through a formal process such as a declarative act of classification (type assignment), or may have arisen through habit, fiat or be of unknown origin. Instances of classificatory status may end either though a formal process, such as a new declarative act of classification, be officially declassified, or may simply fade out of use, be eliminated by fiat or be of unknown reason.
Example	The classificatory status of the assemblage of apatosaurus and camarasaurus remains (E19) as 'has type' Brontosaurus excelsus (E55) 1905 -? held by American Museum of Natural History (E74)
Properties	ZP11 has classificatory subject ZP12 ascribes classification ZP13 ascribes classificatory relation

#	ZE5
Label	Function Status
Superclass of	
Subclass of	ZE4 Classificatory Status
Scope Note	An instance of functional status is the collective ascription of an operative functionality to an object by a community. The substance of the function status is the communal commitment to relating to and using the object in question according to a designated function. Instances of function status are recognizable through evidence of community members adopting the intentional stance of so-using or relating to the object in question, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (Type Assignment) initiating this status. Instances of function status may come to be through a formal process such as a declarative act of classification (type assignment), or may have arisen through habit, fiat or be of unknown origin. Instances of function status may end either though a formal process, such as a new declarative act of classification.

Example	The function status of St Joe's Cathedral (E22) as 'has type' minor basilica (E55) 1984 - Present held by the Catholic Church (E74)
Properties	ZP14 has functional subject ZP15 ascribes function ZP16 ascribes functional relation

#	ZE6
Label	Social Status
Superclass of	
Subclass of	ZE4 Classificatory Status
Scope Note	An instance of social status is the collective ascription of a social function to an actor by a community. The substance of the social status is the communal commitment to relating to and action toward the actor in question according to the designated status. Instances of social status are recognizable through evidence of community members adopting the intentional stance of so relating or acting toward the actor in question, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (Type Assignment) initiating this status. Instances of social status may come to be through a formal process such as a declarative act of assignment (type assignment), or may have arisen through habit, fiat or be of unknown origin. Instances of social status may end either though a formal process, such as a new declarative act of classification.
Example	The social status of Friedrich Hegel (E21) as 'has type' Privatdozent (E55) 1801-1805 held by Jena University (E74) https://en.wikipedia.org/wiki/Georg_Wilhelm_Friedrich_Hegel#Career_ye ars
Properties	ZP17 has social subject ZP18 ascribes social status ZP19 ascribes social status relation

#	ZE7
Label	Custodial Status
Superclass of	
Subclass of	ZE1 Institutional Fact
Scope Note	An instance of custodial status is the collective ascription of a relationship of custodianship over an object by some actor by a community. The substance of the custodial status is the communal commitment to the recognition of the relationship of custodianship over the designated object by the actor in question. Instances of custodial status are recognizable through evidence of community members adopting the intentional stance of so-recognizing this status, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (Declarative Transfer of Custody) initiating this status. Instances of classificatory status may come to be through a formal process such as a declarative act of classification (Declarative transfer of custody), or may have arisen through habit, fiat or be of unknown origin. Instances of custodial status may end either though a formal process, such as a new declarative act of legal transfer of custody, or may simply fade out of use, be eliminated by fiat or be of unknown reason.
Example	The custodial status of the G'psgolox totem pole (E22) as 'has present holder' the Swedish National Museum of Ethnography (E74) 1929-2006 by the Swedish Polity (E74) https://en.wikipedia.org/wiki/G%27psgolox_totem_pole#:~:text=G'psgolox%20totem%20pole%20is,gift%20to%20the%20Haisla%20people.
Properties	ZP20 has custodial subject ZP21 ascribes custodian ZP22 ascribes custodial relation

#	ZE8
Label	Ownership Status

Superclass of	
Subclass of	ZE1 Institutional Fact
Scope Note	An instance of ownership status is the collective ascription of a relationship of legal possession over an object by some actor by a community. The substance of the ownership status is the communal commitment to the recognition of the relationship of possession over the designated object by the actor in question. Instances of ownership status are recognizable through evidence of community members adopting the intentional stance of so-recognizing this status, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (Declarative Acquisition) initiating this status. Instances of ownership status may come to be through a formal process such as a declarative act of taking ownership (declarative acquisition), or may have arisen through habit, fiat or be of unknown origin. Instances of ownership status may end either though a formal process, such as a new declarative act of declarative acquisition, or may simply fade out of use, be eliminated by fiat or be of unknown reason.
Example	The ownership status of the Euphronios Krater (E22) as 'has present owner' the Metropolitan Museum of Art (E74) from 1972-2006 held by the American Polity (E74) https://en.wikipedia.org/wiki/Euphronios_Krater
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Properties	ZP23 has ownership subject ZP24 ascribes owner ZP25 ascribes ownership relation

#	ZE9
Label	Residential Status
Superclass of	
Subclass of	ZE1 Institutional Fact

Scope Note	An instance of residential status is the collective ascription to an actor of a place of residence by a community. The substance of the residential status is the communal commitment to the recognition and use of the designated place with regards to the residence of the designated actor. Instances of residential status are recognizable through evidence of community members adopting the intentional stance of so-recognizing this status, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (Residence Declaration) initiating this status. Instances of residence status may come to be through a formal process such as a declarative act of taking ownership (declarative acquisition), or may have arisen through habit, flat or be of unknown origin. Instances of residence status may end either though a formal process, such as a new declarative act of declarative acquisition, or may simply fade out of use, be eliminated by flat or be of unknown reason.
Example	The residential status of the Prime Minister Role of Canada as 'has former or current residence' 24 Sussex Drive (E53) 1951 - Present held by the Canadian Polity (E74) The residential status of Justin Trudeau as 'has former or current residence' Rideau Hall (E74) 2015 - Present held by the Canadian Polity (E74)
Properties	ZP26 has residence subject ZP27 ascribes residence place ZP28 ascribes residence relation

#	ZE10
Label	Family Status
Superclass of	
Subclass of	ZE1 Institutional Fact
Scope Note	An instance of family status is the collective ascription of a familial relationship between one actor and another by a community. The

	substance of the family status is the communal recognition of the familial connection between the two actors in question. Instances of family status are recognizable through evidence of community members adopting the intentional stance and behaviour indicated as proper to this relation, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (??? adoption) initiating this status. Instances of family status may come to be simply through birth in a certain community or may require that a formal process such as a right of passage has been undertaken. Instances of family status may end either though a formal process such as a renunciation or through death.
Example	
Properties	ZP29 has family subject ZP30 ascribes relative ZP31 ascribes family relation

#	ZE11
Label	Membership Status
Superclass of	
Subclass of	ZE1 Institutional Fact
Scope Note	An instance of membership status is the collective ascription of a membership relationship between an actor and some group by a community. The substance of the membership status is the communal recognition of the ascribed membership relation between the actor and the group in question. Instances of membership status are recognizable through evidence of community members adopting the intentional stance and behaviour indicated as proper to this relation, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (Joining) initiating this status. Instances of membership status may come to be through a formal process such as a declarative act of declarative joining or may have arisen through habit, fiat or be of unknown origin. Instances of membership status may end either though a formal process (declarative leaving), or may simply fade out, be eliminated by fiat or for unknown reasons.

Example	
Properties	ZP32 has membership subject ZP33 ascribes group ZP34 ascribes group relation

#	ZE12
Label	Referential Status
Superclass of	
Subclass of	ZE1 Institutional Fact
Scope Note	An instance of referential status is the collective ascription of a referential relationship between a propositional object and some entity by a community. The substance of the referential status is the communal recognition of the ascribed referential relation between the propositional object and the entity in question. Instances of referential status are recognizable through evidence of community members adopting the intentional stance and behaviour indicated as properly holding between the propositional object and the object it is taken to refer to in the manner it is meant to refer, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act (???artistic genius, the beginning of civilization???) initiating this status. Instances of referential status may come to be through a formal process such as a declarative act or may have arisen through habit, fiat or be of unknown origin. Instances of referential status may end either though a formal process, or may simply fade out, be eliminated by fiat or for unknown reasons.
Example	
Properties	ZP35 has referential subject ZP36 ascribes referent ZP37 ascribes referential relation

ZP38 ascribes referential mode

#	ZE13
Label	Speech Act
Superclass of	
Subclass of	E7 Activity
Scope Note	An instance of speech act comprises an intentional activity engaged in by a set of actors to create a new institutional fact within a community. Speech acts are carried out through invoking a social rule and performing a prescribed set of actions often including the locution of set formulae. Correct execution of the speech act as specified by the rule results in the existence of new institutional facts. The substance of speech act is ritual action by a group. An instance of speech act begins when the intended ritual proceeding as specified by the rule invoked is initiated. The instance of speech act ends when the required set of actions specified for the action in question are executed or it is abandoned.
Example	
Properties	ZP39 invokes [D: ZE13, R:E29] ZP40 performs [D: ZE13, R:E29] ZP41 utters [D: ZE13, R:E33] ZP42 intentionally initiates [D: ZE13, R:ZE1] ZP52 intentionally terminates [D: ZE13, R:ZE1] ZP53 initiates for [D:ZE13, R:E74]

#	ZE14
Label	Similarity Status
Superclass of	
Subclass of	ZE1 Institutional Fact

Scope Note	An instance of similarity status is the collective ascription of a similarity relationship between any two objects by a community. The substance of the similarity status is the communal recognition of the ascribed similarity relation between the two entities in question. Instances of similarity status are recognizable through evidence of community members adopting the intentional stance and behaviour indicated by the kind of similarity believed to hold between the two referenced entities, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act initiating this status. Instances of similarity status may come to be through a formal process such as a scholarly declarative act or may have arisen through habit, fiat or be of unknown origin. Instances of similarity status may end either though a formal process (official disproof), or may simply fade out, be eliminated by fiat or for unknown reasons.
Example	
Properties	ZP43 has similarity subject ZP44 has similarity target ZP45 ascribes similarity relation ZP46 ascribes similarity relation mode

#	ZE15
Label	Set Status
Superclass of	
Subclass of	ZE1 Institutional Fact
Scope Note	An instance of set status is the collective ascription of some relationship of belonging between some entity and a notional set by a community. The substance of the set status is the communal recognition of the ascribed belonging between the subject entity and the set in question. Instances of set status are recognizable through evidence of community members adopting the intentional stance and behaviour indicated as proper to this set belonging relation, as observable from direct witnesses, through the reports of competent observers or through evidence of a declarative act initiating this status. Instances of set status may come to be through a formal process or may have arisen through habit, fiat or be of unknown origin. Instances of membership status may end either

	though a formal process, or may simply fade out, be eliminated by fiat or for unknown reasons.
Example	
Properties	ZP47 has set belonging subject ZP48 ascribes set ZP49 ascribes set belonging relation ZP50 ascribes set belonging mode

#	ZE16
Label	Utterance Event
Superclass of	
Subclass of	E7 Activity
Scope Note	An instance of this class is an act by an agent purposefully using a determined lectical information phrase within the purposes of oratorical and argumentative context towards a certain effect. Instances of utterance event document known historical cases of the deployment of a text by an actor in a context towards some goal. Instances of utterance event can also be detected /interpreted within a text when the research goal and purpose is to determine intention and function of textual passages in their historical context.
Example	
Properties	ZP50 uttered

#	ZE17
Label	Digital Reading
Superclass of	
Subclass of	D7 Digital Machine Event, ZE13 Speech Act

Scope Note	An instance of digital reading is a digital processing event guided by set instructions or parameters for returning an output result set of identifications that makes propositions about the content of an input dataset. Digital reading is a computational process guided by a parametrized hypothesis resulting in a new propositional dataset for scientific consideration. The propositional information generated by the digital reading process should be considered as provisional knowledge posited under a hypothesis. Typically propositions generated by the digital reading will become the subject of further scholarly research.
Example	
Properties	

#	ZE18
Label	Critical Reading
Superclass of	
Subclass of	I1 Argumentation, ZE13 Speech Act
Scope Note	An instance of critical reading is a process of analysis undertaken by a scholar to derive analytical facts from a specific information resource. Critical reading engages the background knowledge of the scholar and their interpretive horizon in order to support them in actively read the research object to derive factual, historically contextualized information regarding the object. This process can take as input previous scholarly documentation or outputs of digital reading events.
Example	
Properties	

#	ZE19
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Label	Naming
Superclass of	
Subclass of	E13 Attribute Assignment
Scope Note	Instances of naming are comprised of an act which officially confers a name to some object under a specific procedure. The result of the instance of naming is the coming to be of a collective acceptance of a name for some object in some mode for some time. The details of this institutional fact are documented in the resultant instance of Appellative Status.
Example	The re-naming of the city of "Mumbai" by Shiv Sena (E74) https://www.hindustantimes.com/india/what-s-in-a-name-mumbai-20-year s-on-from-bombay/story-8WiPZO0gfHDOle6WptGaGO.html
Properties	

#	ZE20
Label	Declarative Acquisition
Superclass of	
Subclass of	ZE13 Speech Act, E8 Acquisition
Scope Note	Instances of this class comprise official acquisition events undertaken following formal procedures within a social grouping leading to formal ownership status over an object relative to the participating parties. A successful act of declarative acquisition leads to the generation of an instance of ownership status, the institutional fact that thereafter mediates the social relation to this object until it has been abrogated.
Example	
Properties	

#	ZE21
Label	Declarative Transfer of Custody
Superclass of	
Subclass of	ZE13 Speech Act, E10 Transfer of Custody
Scope Note	Instances of this class comprise official transfer of custody events undertaken following formal procedures within a social grouping leading to formal change in the custody status over an object relative to the participating parties. A successful act of declarative transfer of custody leads to the generation of an instance of custody status, the institutional fact that thereafter mediates the social relation to this object until it has been abrogated.
Example	
Properties	

#	ZE22
Label	Declarative Joining
Superclass of	
Subclass of	ZE13 Speech Act, E85 Joining
Scope Note	Instances of this class comprise official joining events undertaken following formal procedures within a social grouping leading to formal change in the membership status of an actor relative to a group for the participating parties. A successful act of declarative joining leads to the generation of an instance of membership status, the institutional fact that thereafter mediates the social relation to this object until it has been abrogated.
Example	
Properties	

#	ZE23
Label	Declarative Leaving
Superclass of	
Subclass of	ZE13 Speech Act, E86 Leaving
Scope Note	Instances of this class comprise official leaving events undertaken following formal procedures within a social grouping leading to formal change in the membership status of an actor relative to a group for the participating parties. A successful act of leaving leads to the generation of an instance of membership status, the institutional fact that thereafter mediates the social relation to this object until it has been abrogated.
Example	
Properties	

#	ZE24
Label	Notional Set
Superclass of	
Subclass of	E28 Conceptual Object
Scope Note	Instances of this class comprise notional sets of objects which have been classified together for one reason or another. A notional set comes to be when it is asserted or otherwise declared. It gains or loses members according to the particular rules guiding its maintenance. Typically sets serve a functional purpose such as the grouping of some objects according to an ad hoc, context particular, or a context categorical criterion. See also Linked.Art:Set
Example	

Properties	ZP51 has former or current set member
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#	ZE25
Label	Dating Status
Superclass of	
Subclass of	ZE1 Institutional Fact
Scope Note	An instance of dating status is the collective ascription of the production or the use of an object or a physical thing to a historical or archaeological period by a community. The substance of the dating status is the communal recognition of the ascribed chronological belonging of the object or the physical thing in question. Instances of dating status are recognizable through evidence in the material record of an archaeological or historical event, as observable from direct witnesses, through the reports of competent observers or through evidence of a dating act initiating this status. Instances of dating status may be initiated by a formal process such as a scholarly dating declaration. Instances of dating status may be terminated either through a formal process (official disproof), or be replaced by another dating declaration holding an updated belief and supported by further evidence.
Example	
Properties	ZP4 holds for ZP54 ascribes date ZP55 has dating subject ZP56 ascribes dating relation ZP42i is intentionally initiated by ZP52i is intentionally terminated by

#	ZE26
Label	Dating Declaration
Superclass of	
Subclass of	E13 Attribute Assignment

Scope Note	Instances of dating declaration are an act which officially assigns a historical or archaeological period to the production or the time of use or termination of existence of some object or physical thing. The result of the instance of dating declaration is the coming to be of a collective acceptance of the dating status for some object or some physical thing at some time by some group of people. The details of this institutional fact are documented in the resultant instance of Dating Status.
Example	
Properties	ZP42 intentionally initiates ZP52 intentionally terminates ZP53 initiates for

Properties

#	ZP1
Label	has intentional subject
Super property of	ZP5 has appellative subject [D:ZE2, R:E1] ZP11 has classificatory subject [D:ZE4, R:E1] ZP20 has custodial subject [D:ZE7, R:E19] ZP23 has ownership subject [D:ZE8, R:E72] ZP26 has residence subject [D:ZE9, R:E39] ZP29 has family subject [D:ZE10, R:E21] ZP32 has membership subject [D:ZE11, R:E39] ZP35 has referential subject [D:ZE11, R:E89]
Sub property of	
Domain	ZE1 Institutional Fact
Range	E1 CRM Entity
Scope Note	This property is used to connect an instance of institutional fact to an entity with which it is concerned. The intentional subject indicated by this property is the object about which the institutional fact holds for the group committed to this institutional reality.

Example			
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#	ZP2
Label	ascribes intentional target
Super property of	ZP6 ascribes appellation [D: ZE2, R:E41] ZP12 ascribes classification [D:ZE4, R:E55] ZP21 ascribes custodian [D:ZE7, R:E39] ZP24 ascribes owner [D:ZE8, R:E39] ZP27 ascribes residence place [D:ZE9, R:E53] ZP30 ascribes relative [D:ZE10, R:E21] ZP33 ascribes group [D:ZE11, R:E74] ZP36 ascribes referent [D:ZE12, R:E1]
Sub property of	
Domain	ZE1 Institutional Fact
Range	E1 CRM Entity
Scope Note	This property is used to indicate the entity which an instance of institutional fact ascribes to its subject. The intentional target indicated by this property is the object which the institutional fact establishes as holding of its subject for the group committed to this institutional reality. The manner of its holding is indicated by the intentional relation.
Example	

#	ZP3
Label	Ascribes intentional relation
Super property of	ZP7 ascribes appellative relation [D: ZE1, R:E55] ZP13 ascribes classification relation [D: ZE4, R:E55] ZP22 ascribes custodial relation [D: ZE7, R:E55] ZP25 ascribes ownership relation [D: ZE8, R:E55] ZP28 ascribes residence relation [D: ZE9, R:E55] ZP31 ascribes family relation [D: ZE10, R:E55] ZP34 ascribes group relation [D: ZE11, R:E55] ZP37 ascribes referential relation [D: ZE12, R:E55] ZP38 ascribes referential mode [D: ZE12, R:E55]

Sub property of	
Domain	ZE1 Institutional Fact
Range	E55 Type
Scope Note	This property is used to indicate the relationship which an instance of institutional fact takes to hold between its subject and its object. The intentional relation indicated by this property is the kind of relationship which the institutional fact establishes as holding between them for the group committed to this institutional reality.
Example	

#	ZP4
Label	holds for
Super property of	
Sub property of	
Domain	ZE1 Institutional Fact
Range	E39 Actor
Scope Note	This property is used to indicate the community or group for whom an instance of institutional fact holds. Institutional facts have identity only relative to some group for whom they have a significance as formulated through a chosen symbolic system.
Example	

#	ZP5
Label	Has appellative subject
Super property of	
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]
Domain	ZE2 Appellative Status
Range	E1 CRM Entity
Scope Note	This property is used to indicate the entity for which an appellation

	holds as institutional fact.
Example	

#	ZP6
Label	ascribes appellation
Super property of	ZP9 ascribes contact point [D:ZE3,R: E41]
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE2 Appellative Status
Range	E1 CRM Entity
Scope Note	This property is used to indicate the appellation which is indicated as holding for the named subject of the appellative status.
Example	

#	ZP7
Label	ascribes appellative relation
Super property of	ZP10 ascribes contact point relation [D: ZE3, R:E55]
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE2 Appellative Status
Range	E55 Type
Range Target Bundle	P1 is identified by, P48 has preferred identifier, P102 has title
Scope Note	This property is used to indicate the specific manner in which the appellation which is indicated as holding for the named subject of the appellative status pertains to this subject.
Example	

#	ZP8

Label	has contact subject
Super property of	
Sub property of	ZP5 has appellative subject [D:ZE2, R:E1]
Domain	ZE3 Contact Status
Range	E39 Actor
Scope Note	This property is used to indicate the entity for which a contact point has been specified as means of contact.
Example	

#	ZP9
Label	ascribes contact point
Super property of	
Sub property of	
Domain	ZE3 Contact Status
Range	E41 Appellation
Scope Note	This property is used to indicate the contact point which is indicated as holding for the named subject of the contact status.
Example	

#	ZP10
Label	ascribes contact point relation
Super property of	
Sub property of	ZP7 ascribes appellative relation [D: ZE1, R:E55]
Domain	ZE3 Contact Status
Range	E55 Type
Scope Note	This property is used to indicate the specific manner in which the contact point which is indicated as holding for the named subject of the contact status pertains to this subject.

Example	
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#	ZP11
Label	has classificatory subject
Super property of	ZP14 has functional subject [D:ZE5, R:E72] ZP17 has social subject [D:ZE6, R:E39]
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]
Domain	ZE4 Classificatory Status
Range	E72 Legal Object
Scope Note	This property is used to indicate the entity for which a certain classification is taken to hold by the instance of classificatory status.
Example	

#	ZP12
Label	ascribes classification
Super property of	ZP15 ascribes function [D:ZE5, R:E55] ZP18 ascribes social status [D:ZE6, R:E55]
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE4 Classificatory Status
Range	E55 Type
Scope Note	This property is used to indicate the type which is indicated as holding for the subject of the classification status.
Example	

#	ZP13
Label	ascribes classificatory relation
Super property of	ZP16 ascribes functional relation [D: ZE5, R:E55] ZP19 ascribes social status relation [D: ZE6, R:E55]

Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE4 Classificatory Status
Range	E55 Type
Scope Note	This property is used to indicate the specific manner in which the type which is indicated as holding for the subject of the classification status pertains to this subject.
Example	

#	ZP14
Label	has functional subject
Super property of	
Sub property of	ZP11 has classificatory subject [D:ZE4, R:E1]
Domain	ZE5 Functional Status
Range	E72 Legal Object
Scope Note	This property is used to indicate the entity for which a certain functional classification is taken to hold by the instance of functional status.
Example	

#	ZP15
Label	ascribes function
Super property of	ZP15 ascribes function [D:ZE5, R:E55] ZP18 ascribes social status [D:ZE6, R:E55]
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE5 Functional Status
Range	E55 Type
Scope Note	This property is used to indicate the type of function which is indicated as holding for the subject of the function status.

Example				
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#	ZP16
Label	ascribes functional relation
Super property of	
Sub property of	ZP13 ascribes classification relation [D: ZE4, R:E55]
Domain	ZE5 Functional Status
Range	E55 Type
Scope Note	This property is used to indicate the specific manner in which the function which is indicated as holding for the subject of the function status pertains to this subject.
Example	

#	ZP17
Label	has social subject
Super property of	
Sub property of	ZP11 has classificatory subject [D:ZE4, R:E1]
Domain	ZE6 Social Status
Range	E39 Actor
Scope Note	This property is used to indicate the actor for which a certain social status is taken to hold by the instance of social status.
Example	

#	ZP18
Label	ascribes social status
Super property of	
Sub property of	ZP12 ascribes classification [D:ZE4, R:E55]

Domain	ZE6 Social Status
Range	E55 Type
Scope Note	This property is used to indicate the type of social status which is indicated as holding for the subject of the classification status.
Example	

#	ZP19
Label	ascribes social status relation
Super property of	
Sub property of	ZP13 ascribes classification relation [D: ZE4, R:E55]
Domain	ZE6 Functional Status
Range	E55 Type
Scope Note	This property is used to indicate the specific manner in which the type of social status which is indicated as holding for the subject pertains to this subject.
Example	

#	ZP20
Label	has custodial subject
Super property of	
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]
Domain	ZE7 Custodial Status
Range	E72 Legal Object
Scope Note	This property is used to indicate the legal object over which a certain custodial status is taken to hold
Example	

#	ZP21
Label	ascribes custodian
Super property of	
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE7 Custodial Status
Range	E39 Actor
Scope Note	This property is used to indicate the custodian to whom the custody of the legal object which is the subject of the custodial status redounds.
Example	

#	ZP22
Label	ascribes custodial relation
Super property of	
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE7 Custodial Status
Range	E55 Type
Scope Note	This property is used to indicate the specific manner in which the custodial status which is indicated as holding over the legal object by the custodian pertains to this subject.
Example	

#	ZP23
Label	has ownership subject
Super property of	
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]
Domain	ZE8 Ownership Status

Range	E72 Legal Object
Scope Note	This property is used to indicate the legal object over which a certain ownership status is taken to hold
Example	

#	ZP24
Label	ascribes owner
Super property of	
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE8 Ownership Status
Range	E39 Actor
Scope Note	This property is used to indicate the owner to whom the title of the legal object which is the subject of the ownership status redounds.
Example	

#	ZP25
Label	ascribes ownership relation
Super property of	
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE8 Ownership Status
Range	E55 Type
Scope Note	This property is used to indicate the specific manner in which the ownership status which is indicated as holding over the legal object by the owner pertains to this subject.
Example	

#	ZP26

Label	has residence subject
Super property of	
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]
Domain	ZE9 Residence Status
Range	E39 Actor
Scope Note	This property is used to indicate the actor for whom the residence status is taken to hold.
Example	

#	ZP27
Label	ascribes residence place
Super property of	
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE9 Residence Status
Range	E53 Place
Scope Note	This property is used to indicate the place at which the subject of the residence status is taken to reside/dwell/abide.
Example	

#	ZP28
Label	ascribes residence relation
Super property of	
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE9 Residence Status
Range	E55 Type
Scope Note	This property is used to indicate the specific manner in which the residence status which is indicated as holding over the actor pertains

	to this subject.
Example	

#	ZP29
Label	has family subject
Super property of	
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]
Domain	ZE10 Family Status
Range	E21 Person
Scope Note	This property is used to indicate the person for whom the family status is taken to hold.
Example	

#	ZP30
Label	ascribes relative
Super property of	
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE10 Family Status
Range	E21 Person
Scope Note	This property is used to indicate the person ascribed as having a family relation to the subject person of the family status.
Example	

#	ZP31
Label	ascribes family relation
Super property of	

Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE10 Family Status
Range	E55 Type
Scope Note	This property is used to indicate the specific type of family status which is indicated as holding between the subject individual and his/her ascribed relative.
Example	

#	ZP32
Label	has membership subject
Super property of	
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]
Domain	ZE11 Membership Status
Range	E39 Actor
Scope Note	This property is used to indicate the person for whom the membership status is taken to hold.
Example	

#	ZP33
Label	ascribes group
Super property of	
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE11 Membership Status
Range	E74 Group
Scope Note	This property is used to indicate the group ascribed to the subject person of the membership status as having a membership relation thereto.

Example	
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#	ZP34
Label	ascribes membership relation
Super property of	
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE11 Membership Status
Range	E55 Type
Scope Note	This property is used to indicate the specific type of membership status which is indicated as holding between the subject individual and the group to which she/he is ascribed.
Example	

#	ZP35
Label	has referential subject
Super property of	
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]
Domain	ZE12 Referential Status
Range	E89 Propositional Object
Scope Note	This property is used to indicate the propositional object for which the referential status is taken to hold.
Example	

#	ZP36
Label	ascribes referent
Super property of	

Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE12 Referential Status
Range	E1 CRM Entity
Scope Note	This property is used to indicate the referent to which the subject propositional object is taken to refer.
Example	

#	ZP37
Label	ascribes referential relation
Super property of	
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE12 Referential Status
Range	E55 Type
Scope Note	This property is used to indicate the specific type of referential status which is indicated as holding between the subject propositional object and its indicated intended referent.
Example	

#	ZP38
Label	ascribes referential mode
Super property of	
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE12 Referential Status
Range	E55 Type
Scope Note	This property is used to indicate the specific manner in which the referential status which is indicated as holding between the subject propositional object and its indicated intended referent holds.
Example	

#	ZP39
Label	invokes
Super property of	
Sub property of	P33 used specific technique
Domain	ZE13 Speech Act
Range	E29 Design or Procedure
Scope Note	This property is used to indicate the normative rule which a speech act relies on as typological and as sanctioning code in order to bring out a token/instance of the institutional fact it prescribes.
Example	

#	ZP40
Label	performs
Super property of	
Sub property of	P33 used specific technique
Domain	ZE13 Speech Act
Range	E29 Design or Procedure
Scope Note	This property is used to indicate the performance plan sanctioned by normative rule appealed to by the speech act to bring about a new institutional fact. This performance plan indicates the series of necessary procedures that must be followed in order for the speech act to have been successfully carried out and to have created a genuine instance of the institutional fact that it was designed to make possible.
Example	

#	ZP41
Label	utters

Super property of	
Sub property of	P16 used specific object
Domain	ZE13 Speech Act
Range	E33 Linguistic Object
Scope Note	It is typical of performance plans for normative procedures to include a necessary invoking clause of set of clauses which must be uttered in the course of the performance of the speech act in order to for it to be successfully invoked. This property enables the documentation of the use of such a linguistic object.
Example	

#	ZP42
Label	Intentionally initiates
Super property of	
Sub property of	O13 triggers
Domain	ZE13 Speech Act
Range	ZE1 Institutional Fact
Scope Note	This property is used to connect the instance of speech act to the instance of institutional fact which it brought into existence through the correct performance of the specified performance to bring about the norm type it aimed to bring about.
Example	

#	ZP43
Label	has similarity subject
Super property of	
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]

Domain	ZE14 Similarity Status
Range	E1 CRM Entity
Scope Note	This property is used to indicate one of two entities for which the similarity status is taken to hold.
Example	

#	ZP44
Label	ascribes similarity target
Super property of	
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE14 Similarity Status
Range	E1 CRM Entity
Scope Note	This property is used to indicate the other entity for which the similarity status is taken to hold.
Example	

#	ZP45
Label	ascribes similarity relation
Super property of	
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE12 Referential Status
Range	E55 Type
Scope Note	This property is used to indicate the specific type of similarity which is indicated as holding between the two entities indicated in the similarity status.
Example	

#	ZP46
Label	ascribes similarity mode
Super property of	
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE14 Similarity Status
Range	E55 Type
Scope Note	This property is used to indicate the specific manner in which the similarity status, which is indicated as holding between two entities indicated in the similarity status, is the case.
Example	

#	ZP47
Label	has set belonging subject
Super property of	
Sub property of	ZP1 has intentional subject [D: ZE1, R: E1]
Domain	ZE15 Set Status
Range	E1 CRM Entity
Scope Note	This property is used to indicate an entity which is taken as belonging to a particular set by the instance of set status
Example	

#	ZP48
Label	ascribes set
Super property of	
Sub property of	ZP2 ascribes intentional target [D: ZE1, R:E1]
Domain	ZE15 Set Status

Range	ZE24 Notional Set
Scope Note	This property is used to indicate the set to which an entity is indicated as belonging .
Example	

#	ZP49
Label	ascribes set relation
Super property of	
Sub property of	ZP3 ascribes intentional relation [D: ZE1, R:E55]
Domain	ZE15 Set Status
Range	E55 Type
Scope Note	This property is used to indicate the specific type of belonging to the set which is indicated as holding between the subject entity and the target set.
Example	

#	ZP50
Label	uttered
Super property of	
Sub property of	P16 used specific object [D: ZE1, R:E55]
Domain	ZE16 Utterance Event
Range	E73 Information Object
Scope Note	This property is used to connect an instance of utterance event to the specific information object that was used in its performance.
Example	

#	ZP51
1	

Label	has former or current set member
Super property of	
Sub property of	
Domain	ZE24 Notional Set
Range	E1 CRM Entity
Scope Note	This property is used to connect an instance of set to an entity considered to be one of its members.
Example	

#	ZP52
Label	Intentionally terminated
Super property of	
Sub property of	O13 triggers
Domain	ZE13 Speech Act
Range	ZE1 Institutional Fact
Scope Note	This property is used to connect the instance of speech act to the instance of institutional fact which it cancels through the correct performance of the specified performance to bring about the norm type it aimed to bring about.
Example	

#	ZP53
Label	Initiates for
Super property of	
Sub property of	
Domain	ZE13 Speech Act

Range	E74 Group
Scope Note	This property is used to connect the instance of speech act to the instance of group for whom it initiates the existence of a social fact through its performance.
Example	

#	ZP54
Label	ascribes date
Super property of	
Sub property of	
Domain	ZE25 Dating Status
Range	E4 Period
Scope Note	This property is used to connect the instance of dating status to the instance of a period to which the existence or use of a physical thing or an object has been attributed.
Example	

#	ZP55
Label	has dating subject
Super property of	
Sub property of	
Domain	ZE25 Dating Status
Range	E4 Period
Scope Note	This property is used to connect the instance of dating status to the instance of a period or event associated with the existence or use of the physical thing or an object in question.

#	ZP56
Label	ascribes dating relation
Super property of	
Sub property of	
Domain	ZE25 Dating Status
Range	E55 Type
Scope Note	This property is used to assign the type of relationship the assigned historical period has to the physical thing or an object in question.
Example	