and a *nominative* construction; though some verbs normally require one or the other construction, the speaker is relatively free to select one or the other, and thereby to convey a different meaning. In these languages the difference between the constructions is *functional.* Example from Kabardian 'The woman is reading the book' (here superscript^{E} and ^{N} mean ergative and nominative):

Ergative construction: fəzə-m txəɬə-r jedʒe (1)
woman^{E} book^{N} reads

Nominative construction: fəzə-r txəɬə-m jewdʒe (2)
woman^{N} book^{E} reads

The meaning difference is that (1) implies that the woman is reading right through the book, while in (2) she is reading superficially, or merely dipping into the book. In general, the meaning distinction is that the ergative construction expresses strong transitivity—a close, purposeful tie between the verbally expressed activity and its object, while the nominative construction expresses weak transitivity, stressing the action of the subject rather than the effect upon the object. In each case, note, it is the NP which is in the closest relationship to the verb that is in the unmarked, nominative or absolutive case (Catford 1976).

Another syntactic feature of North Caucasian, is the virtual absence of conjunctions and relative pronouns, so that virtually all sentential conjoining and subordination, including relativization, is carried out by conjunctive verb forms, participles, etc.

3. External Relations

There has been much speculation in the last century and a half concerning the origin and relationships of the Caucasian languages. The ergative construction attracted the attention of many scholars and prompted suggestions of relationship with virtually any language that has an ergative construction, including Basque, Burushaski, Paleo-Siberian and, among ancient languages, Sumerian and Urartian. Serious comparison with other language families was scarcely possible so long as there had been no large-scale establishment of sound-correspondences among Caucasian languages, or reconstruction of a Caucasian protolanguage or languages. Since about the early 1970s, however, much progress has been made, particularly by Soviet linguists, and Kartvelian has been rather convincingly included in the Nostratic macro-family, along with Indo–European, Dravidian, Altaic and Uralic (Illyč-Svitč 1971), and the reconstruction of Proto-North Caucasian by Nikolaev and Starostin opens up the possibility of more precisely establishing the postulated relationship of North Caucasian to Yenisseian and Sino–Tibetan in a Sino–Caucasian macro-family.

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Causation

'Causation' is a relation between events or states in space and time. It is based on the idea of making things happen or preventing them from happening. *A* is the cause of *B* (and *B* is the effect of *A*) if the presence of *A* brings about the presence of *B*, or if the absence of *A* brings about the absence of *B*.

1. Different Types of Causes

Causes may be classified in many different ways. Two of the most important distinctions are between 'dynamic' and 'static' causes, on the one hand, and between 'external' and 'internal' causes, on the other. A change in the environment of *A* is a typical dynamic external cause of what happens to *A*, whereas what remains unchanged, insofar as relevant, is the static external cause. The structure of *A* is the static internal cause of what happens to *A*, whereas a chain-reaction within *A* contains a set of dynamic internal causes (or effects-turned-into-causes). What is internal or external is relative to the point of view.

Another basic distinction is between 'efficient' versus 'teleological' causation. Because teleological causation makes reference to 'goals,' it is metaphorically characterized as the *a fronte* type of causation, whereas efficient (or 'standard') causation is characterized as the *a tergo* type of causation. Teleology does not of course assume that something in the present is caused by something in the future (=the goal). It assumes, rather, that an event in the present has been caused by some temporally anterior internal representation or prefiguration of the goal-state.

The question has been much debated whether intelligent human behavior (or 'actions' in the strong sense of this word) can be said to be caused. The usual way to formulate this question is to ask whether 'reasons can be causes.' By 'reason' is understood a 'goal-cum-belief,' i.e., a goal entertained by the agent combined with his belief that a given action, which he can perform, will contribute to

achieving the goal. If the original notion of 'causation' is retained then there is no objection against speaking about the causation of actions, because it is quite evident that an agent would not have acted in the way he did, if he had not had just this goal and just this belief about the consequences of his actions. However, accepting this conclusion commits one to accepting the view that causation need not operate nomologically or in a lawlike fashion, because there are no (known) 'natural laws of human actions.' As the instinctive character of human behavior increases, however, its nomological character increases too.

It is customary to present a causal analysis in terms of 'sufficient and necessary conditions.' Many different types of events, e.g., p, may be sufficient to bring about the type of event q. This is expressed in the corresponding material implication 'if p, then q.' If all types of events similar to p contain a common element r, it is a necessary (causal) condition of q, as expressed in the sentence 'only if r, then q.' The presence of p makes q occur, whereas the absence of r prevents q from occurring. That 'condition' is a more general notion than 'cause,' is evident from the fact that in a material implication the antecedent expresses a sufficient condition while the consequent expresses a necessary condition. Thus, in our example q, although the effect of p, is nevertheless its necessary condition (Bunge 1959; Mackie 1974; von Wright 1974).

2. Causation in Linguistics

In accordance with what has been said so far, it is evident that linguistic actions and processes are amenable to causal analysis, or 'explanation,' because they take place in space and time, or at least in time. (This restriction is needed in view of the nonspatial character of mental entities.) Linguistic phenomena to be (causally) explained include speaking, understanding, linguistic change, and language acquisition. (By contrast, grammatical analysis qua analysis of sentences is in itself of noncausal nature.) Static internal causes include internalizations of linguistic 'norms' (constituting the 'mental grammar'), general beliefs about the world, and particular beliefs about the speech situation. Dynamic internal causes include speech intentions, whereas dynamic external causes include utterances heard. Linguistic behavior is typically goal-directed, which means that its explanation is typically of teleological character. Insofar as linguistic (sub)actions are adequate means for achieving their goals, teleological explanation may be characterized more narrowly as 'rational' explanation (Itkonen 1983: ch. 4).

Not only linguistic behavior but also linguistic structure may be causally explained. In this case the causes include the structure of the extralinguistic reality, the human (nonlinguistic) cognition, and the human body. This is the research program of 'explaining language universals.' (Notice that the nativist research program, which is based on the innateness hypothesis, does not intend to explain the nature of linguistic structure, but the fact of language acquisition (Haiman 1985; Hawkins 1988). In just the same way, the medieval Modistic grammarians argued that the 'remote' causes of correct sentences are human cognition (*modi intelligendi*) and extralinguistic reality (*modi essendi*). (By contrast, the language-internal 'proximate causes,' called *modi significandi*, would not qualify as genuine causes in the late twentieth century.)

3. Causal Models

A causal 'model' attempts to reproduce the 'movement' from causes to effects. In the natural sciences it is generally the case that (internal) causes are unobservable whereas (external) effects are observable. This means that the construction of causal models consists in 'ascending' from known effects to unknown (or less well-known) causes, or in hypothetico–inductively inferring the latter from the former. The causes are postulated to be such that their description (combined with the description of the relevant laws) entails the description of the effects.

It is generally assumed that this type of 'postulational' (or 'analytical') model represents the causal model *tout court*. It is indeed true that the postulational model is valid in the human sciences too in those cases where the causes of human behavior are situated below the level of consciousness. When, however, the causes are open to conscious inspection, as in the case of 'rational action,' the situation is different. In this case a set of self-evident 'norms of rationality' (for instance, the Gricean maxims of conversation) constitute the point of departure from which a set of hypothetical actions are computed, these being matched more or less closely by real actions. In other words, this type of description, called 'synthetic model,' proceeds from known causes to less well-known effects. The analysis of norms of rationality derives its causal import from the additional assumption that the norms under study have in fact been internalized by the agents (Diesing 1972; Itkonen 1983: ch. 6).

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E. Itkonen

Caxton, William (ca. 1415–91)

William Caxton's fame rests on his being the first printer of books in English and the first owner of a successful printing shop, thus ushering in a new era in cultural history. But he was also a merchant of political influence and a gifted translator (mainly) from French into English.

He was born in Tenterden, Kent, some time between 1411 and 1422, and died in Westminster in 1491. After an apprenticeship as a mercer in London between 1438 and