

When is a Sign not a Sign

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A caveat: I come to this domain of inquiry as a long-time expatriate. In another life I spent a number of years trying to understand the relationships between language, film, and cognition. Since then I have visited only occasionally; I claim no particular up-to-date knowledge. Yet the remarks that follow may be useful as a first approximation to an approach that apparently has not been investigated previously.

When I started, classical linguistics was still provoking an uneasy fascination among film scholars. Faced with a messy, complex phenomenon we looked enviously at the neat arrays of categories and concepts constructed over the years by linguists. We forgot that our understanding of languages is based on hundreds--even thousands--of years of study of an equally messy and complex phenomenon.

For instance, the form class categories of verb, noun, preposition, and the rest are not self-evident. They needed to be specified by careful analysis. Plato started it; on later extended examination, it turned out that form classes

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appear to be applicable principally to Latinate languages. And the last time I looked, some years ago, work was still going on dealing with the problem of whether particular form classes were a language universal.¹

Yet, frustrated by the disorder of our own field, many early film theorists, at least those who wrote in English, tried to apply form class terminology to film with results that we now recognize as distortions of the basic phenomenon. I doubt that there are many film scholars who still take seriously John Howard Lawson's 1964 assertions that "internal montage resembles the intransitive verb while cutting . . . is transitive."² Once we began to look seriously at a broader sample of films and at the theoretical basis for language, "Film Grammar" was recognized as an obviously deficient approach.

I honestly should not be too harsh with those who examined these possibilities since I have not been exempt from the urge myself. In the late sixties some of us, including Sol Worth and Christian Metz³, had looked at the same evidence and had independently reached the same conclusion: film is clearly not a language, yet it can be studied as if it were.

That moment in history was like a pool break; having been struck by the same conclusion, we went off in divergent directions. It took me several years to become absolutely convinced that language and film have nothing to do with each other as formal systems, except that they are both sign systems.⁴ I use the phrase "sign systems" for reasons of convenience, though it makes me uneasy. I now believe that the terminology of sign, signifier, and signified distorts the analysis of film as a formal system.

Briefly stated, my argument is a simple one: *As logical systems language is deductive and film is inductive.* This distinction is important since using an incorrect assumption about the logic of the system could lead to erroneous descriptions such as those in the film grammar canon. Further, if we are serious about studying film viewing as an act of cognition we must correctly understand the components of the stimulus. Deductive and inductive systems operate under different types of rules that make different cognitive demands on viewers.

Language and film differ at every level of linguistic analysis: phonemic, morphemic, syntactic, and semantic. Since we are talking about basic distinctions, it is necessary to go through some basic and widely understood points about language. Bear with me while I review some of these matters to make the argument.

We can start by examining the basic coding variables of the two sign systems. This is the phonemic level which deals with the smallest unit of speech that distinguish one utterance from another in language. The basis of language is vocal sound. The human voice is capable of creating thousands of distinguishable sounds; only forty or fifty of these sounds--phonemes--are typically significant in any given language.

This is not to say that only this many sounds are meaningfully uttered. Around each phoneme there is a range of acceptable and interchangeable sounds--technically, allophones. But at some point in the range of possible sounds there is a border between phonemes. These differ for different languages and dialects, but a border is always present. For instance, native speakers of English have no difficulty in producing and recognizing the phonemes /n/ and /ng/ as in *given* or *giving*. To the speaker of Spanish, however, /n/ and /ng/ are allophones for the same phoneme with the sometimes comical result that a native speaker of Spanish trying to learn English does not seem to know the difference between *singing* and *sinning*.

There are numerous similar illustrations of the point; the fact is clear; there are phonemic boundaries between the range of sounds in language. These are not artificial boundaries similar to the various sets of words used in different languages to break up the color spectrum. Phonemic boundaries are part of the system and part of what makes the system work.

The situation in film is quite different. There is nothing in film equivalent to the phonemic boundary in language. The basis of film consists of photographic images and various sounds. To simplify the argument I will consider only photography, but with appropriate modifications anything I say on this point could be said about sound in film.

The minimum requirements for encoding a photographic image are lighting, angle of view, and a lens. Subsumed under these general categories are specific variables such as lighting angles and lighting key, size of image, placement of objects within the frame, lens perspective and depth of field. All of these more-or-less independent coding variable could be consequential in communicating meaning; from these coding variables there arise the potential for countless possibilities of depiction.

The important point is that there is no clear boundary within the range of film variables. They are continuous in the mathematical sense of the word. A camera could be placed five degrees above eye level, or six, or ten, or any other angle that is physically possible. It is clear that only in gross terms are there boundaries between these choices. Obviously if a thing is photographed from the back, the picture would be different than from the front. Otherwise there is literally an infinite range of possibilities between any one choice of angle and any other. The story is the same for all the other coding variables. There are effectively no boundaries.

This is only the beginning. Words and images differ in fundamental ways at what is described in linguistics as the morphemic level. Here we are dealing with the smallest unit of relatively stable meaning. One of the consequences of the photographic basis of film is that at the outset the image is fairly specific to the object. This is in contrast to language where a word is

more-or-less general. In brief, images tend to be specific while words tend to be general.

Despite these tendencies, pictures are not absolutely specific nor are words absolutely general. The word *chair* subsumes a limited number of criterial attributes; a chair spoken about is a generalized four-legged seat with a back. A picture of a chair represents a specific chair with a larger number of attributes. Words may range in generality from the most general to the most specific as in the series of words: *seat, bench, chair, throne, cathedra, and pouf*. However, no matter how specific a word is, it still refers to a set of criterial attributes. Furthermore, there are boundaries between words; a *chair* is one thing; a *bench* another. Only in the physical world--the world that photography draws upon--is there possible confusion around whether a particular object is a "chair" or a "bench."

The specificity of a picture can be generalized by reducing the unique attributes of an object to general attributes of a class of objects. Obviously, this is accomplished through manipulation of coding variables. A silhouette and a full face photograph can serve as a simple illustration.

Say there is a man, a particular man, with a number of particular attributes. When photographed full face, as in a passport picture, a number of these attributes will be made manifest; we can see the mole on his cheek as well as his dimples if he smiles. A silhouette of the same man will obscure both his mole and his dimples, but will emphasize the general shape of his head, his perhaps prominent nose, or most of all, the picture will emphasize his general characteristics as a man, or as a human being. There is a full range of possibilities between the passport picture and the silhouette; there is no clear point where one becomes the other. Again, there is literally an infinite range of possibilities with no effective boundary.

Words and images differ in another important characteristic at the level of meaning, technically, semantics. Words are sounds that have come to mean what they mean over a period of usage in a particular relationship to a concept. For any word, whether of concrete or abstract denotation and connotation, the essential source of meaning is in the conventional connection between the term and its concepts. Concepts have no embodiment other than the word; concepts have no concrete existence. This is clear for words such as *love, democracy, and God* but it is equally true for all words.

No one, it has been suggested, has ever seen "pencil." They might have seen objects with certain characteristics, that is, instances of a class of things to which the word *pencil* can be applied within a given group of language users, but "pencil" is an abstraction, a concept, as is "dog," "rock," or any other supposedly concrete object. It does not matter whether I speak of a *dog, chien, or hund*, I am still referring to a certain kind of animal, typically a household pet.⁵

Under these circumstances, it is reasonable to speak, as deSaussure did, of signifier and signified as linked like two sides of a piece of paper. The use of these terms in description of a film image is one of the sources of mischief introduced by the use of linguistic categories in describing film.

In contrast to words with their one basic source of meaning, the "signifier" in film (or any other photographic image) with few exceptions consists of two elements: *objects or events*, that can be photographed and *depiction*, the way in which coding variables have been manipulated in rendering an image of the objects or events. While depiction modifies the meaning of objects or events, the meaning of an image is undergirded by the attributes of the object or event.

In an image, the meaning potential in the object is a fixed point establishing a range of meanings. Depiction can variously emphasize attributes to modify meaning within that range. No matter how depicted an image of an old man evokes different meanings than the image of a young woman. At the same time, depiction contributes to the meaning; lighting, image size, angle of view, and so on are part of the meaning of an image. In the relationship between object and depiction, the relative contribution to meaning from these sources can range from depiction as a minimal source of meaning, as in an identification portrait, to total contribution to meaning by depiction, as in an abstract photographic representation.

From even this brief discussion of differences between words and images, it seems clear that depiction contributes to meaning in ways that the physical realization of words does not. Except in poetry, the form of words are only the carriers of meaning while depiction is more than a carrier of meaning, yet less than an independent source of meaning in most cases.

We understand the meaning of words by understanding the rules, the conventional connection between signifier and signified--that is, through a deductive process. Our understanding of images derives from an inductive process based on the available evidence.

There is more to this story: Units like words and shots are typically combined to form larger units. In language there are numerous characteristics of syntax, all of which are rule-governed. Take one of the more obvious of these rules, fixed word order. Certain classes of words occupy specifiable positions when signaling certain types of meaning. For instance, in English, the declarative sentence *John is going* contrasts with the interrogative *Is John going* only by word position. More importantly, of the four other logical arrangements of these words only *Going is John* has any grammatical status and then only in specialized usage. The other arrangements are immediately recognized by skilled speakers of English as being ungrammatical and of questionable meaning. Different languages have different rules for word order, but in any language there are rules for acceptable word order.

Another example of the same sort may help. There are structure words that can be defined only with difficulty, and then not very satisfactorily. The function of these words is to relate meanings of other words in the context of a sentence. Although there may be disagreement in detail, structure words are generally believed to be meaningless in isolation. What is the meaning of words like: *is, the, a, of, that, which*? These words are boundary markers.

There are other characteristics of language such as indicating categories which make it possible or mandatory in different languages to express states of time, place, and certainty about utterances; these indicating categories include things like personal pronouns, tense, mood, and number.

These and other language characteristics function as signaling devices for specifying semantic relationships apart from the meaning of individual words. These characteristics are part of the logical structure of language. They are the specifying markers for the logical framework in the formal sense that syntax is a logical framework from which deductions are made. One comprehends a verbal utterance in terms of understanding the rules from which the utterance is constructed.

Knowledge of the rules enables us to make deductions even from nonsense sentences that are grammatically constructed. Consider Jabberwocky: "Twas brillig and the slithy toves did gyre and gimble in the wabe." There are no such English words as *brillig, slithy, toves, gyre, gimble, wabe*, yet the sentence makes a kind of sense for two reasons, the form of the nonsense words, and the form of the sentence.

The form of the nonsense words follow the rules of English phonology. There are no phonemic combinations that are unacceptable in English, such as /dzi/ which represents a combination of sounds that are uttered easily by any Polish four year old. The nonsense words of Jabberwocky could be acceptable English words if they signified anything; it just happens that they do not.

The form of the sentence, as supported by the structure words, also follows the rules of English grammar: "Twas _____ and the _____ did _____ and _____ in the _____. The word *'twas* is a contraction of the phrase *it was*; knowledge of the rules of English tells us that this phrase could be followed grammatically only by words referring to time or condition, for instance, *it was raining* or *it was Sunday* but not *it was house*. Further deductions based on knowledge of the rules tells a skilled speaker of English that the next two blank terms refer to the subject of the sentence; the structure word *did* would be followed by actions performed by the subjects, while the structure words *in the* would be followed by a location for these actions.

In short, language is a deductive system. And the rules of this deductive system depend on the existence of boundaries. To use the system one must know which rules are applicable to different parts of the boundary.

In film there are no similar characteristics; there are no boundaries in film coding variables. There is no point at which a change in a coding variable is or is not "phonemic." There is no known limit on the placement within a sequence of any particular class of shot. There is no conventional way to signal the nature of the relationship between shots; there is no depictional equivalent to *is, the, a, of, that, which*, and so on. Nor, to sharpen the point, is there the equivalent of *and so on*.

The general absence of conventional sequencing rules and conventional devices to signal relationships between images has important consequences for film. The relationship between succeeding images is direct and imperative, based on the immediacy of the juxtaposition between images. When two pieces of film are stuck together (to use the English translation of Eisenstein's phrase) they are separated only by a substantially invisible marker, the splice. There is direct and immediate contact between objects across a cut in a sequence. All arrangements have potential meaning; succeeding images qualify each other. Each juxtaposition can evoke meaning not obviously present in either element in the pair.

However, it is not reasonable to assert that all combinations evoke meaning equally. The meaning evoked by sequencing and juxtaposition is contingent on the shots being edited. Understanding any sequence is based on an inductive process that integrates the separate meanings; there are no specific deductive rules to guide the interpretation of film. Saying this is not saying much, unless more can be said to explain the operation of the inductive process in film. A start can be made by observing that the characteristics of language I have discussed such as phonemic boundaries, fixed word order, structure words, and other I have merely mentioned are logic markers for a deductive system that is empty of content. By contrast, content does matter in an inductive system.

What then are the logic markers for film? Individually the markers are simple; taken as a group there are powerful implications. The techniques that constitute what I am calling logic markers in film are part of the pragmatics of film production and are well-understood by all practitioners, even those who are only semi-skilled. One begins to become fluent in film coding when one begins to appreciate the possibilities of matching and contrasting things such as actions, composition, lighting. Or indeed not editing but rather showing a single event in a single long take, to maintain the integrity of the dramatic space.⁶

Among objects and events in a particular shot there are numerous codes operating, such as behavior, dialogue, costumes, settings, and so on. Various aspects of these codes can be connected to each other through depiction. Within particular shots, coding variables are the logic markers; they can

emphasize elements of some object or event code, obscuring others, or connecting still others within the composition.

The whole range of coding variables are available to be used as logic markers to guide interpretation of particular scenes. Other logic markers operate between shots; such editing techniques as matched and contrasted composition, matched and contrasted lighting, matched action and jump cuts, and so on, function to relate or contrast events. Specific techniques of composition and editing as logic markers serve to influence interpretation of filmic images as does grammar in language.

The marking of logic does not depend solely on the technical considerations of depiction, but also on the events being depicted. Meanings of sequences are compounded by establishing relationships among attributes of events, through appropriate depiction. Conversely, the status of a particular depictional element depends on the events being depicted. In other words, events and depiction are interacting in both composition and editing.

This interaction between events and depiction underlie the weakness of the "film grammar" approach to film analysis. There is nothing fixed and immutable about, say, the meaning of a low angle. Any meaning it does have is conventional. The significance of a particular depiction element depends on the significance of the object or event being depicted.

Some of the multiple codes of film subsumed as events may be deductive but depiction interacts with codes modifying and altering them. Even the boundaries of language can be modified when language is juxtaposed with images; shifts of a sound track a few frames one way or another can alter the significance of a verbal utterance. Through interaction, codes--even deductive ones--become elements in the inductive system.

The significance of logic markers in film varies from case to case since there are no fixed boundaries of depiction and the markers depend on the events being depicted. The whole system is inductive, depending not on rules, but on the context--the specific facts of the case. In each separate work and within a single work there are shifting relationships between events and depiction and shifting boundaries in depiction.

Any theory of film must take into account the lack of boundaries within a system; an analytic requirement for boundaries would distort the analysis of the phenomenon. I suspect that this kind of distortion is reflected in the historically close relationship between theoretical description and aesthetic imperative. It seems to me that many theorists who knew better overlooked the lack of boundaries in film when they tried to support their aesthetic position by deductive rules that required boundaries.

At different times, Pudovkin, Eisenstein, and Bazin made contradictory claims about the role of editing. Pudovkin wrote about constructive editing, that is, "the resolving of the material into its elements and subsequent building

from them of a filmic whole." Bazin rejected this idea when he stated as a "law of aesthetics" that "when the essence of a scene demands the simultaneous presence of two or more factors in the action, montage is ruled out." By contrast, Eisenstein argued that a new meaning can arise from a collision of two images.

Each theorist was correct for a particular body of work, but their "rules" were incorrect in general precisely because they were deductive descriptions of an inductive phenomenon. Their rules were easily contradicted by evidence acceptable to anyone not committed to a particular aesthetic. In other words, one can be moved, excited, and enthralled by *The Maltese Falcon*, *The Battleship Potemkin* and *Citizen Kane* although each was constructed according to different "rules."

Another yield from the analysis of film as an inductive system is a theoretical explanation of the flexibility of the system. The rules of language, with some exceptions, are operating rules; they tell us how to make the system work. The rules of film, with some exceptions are process rules which describe the possibilities and within which there are no impossible sequences. The difference between the two types of rules may be illustrated by the rules surrounding the automobile.

The rules for actually driving a car are operating rules; they tell us how to make the car work--start the engine by doing thus and so, engage the transmission this way, and so on. In contrast, the rules of the road are process rules. The rule for speed limits, for instance, can say that one should not go faster than a certain number of miles per hour; anyone who has been on the highway recently knows what this means. There are always people exceeding the speed limit.

The exceptions to the proposition that language is governed by operating rules and film is controlled by process rules are worth looking at. There are some process elements in language, but they are relatively trivial overlays. Occasional terms appear and disappear in a language through process rules; however, while they are part of the language they are governed by operating rules. During the 1920s and 1930s in the United States slang terms such as *cat's whiskers* and *groovy* entered the language as terms of praise. While they were current, however, they were used as adjectives and were governed by all of the appropriate rules for adjectives.

There do not seem to be any elements of film similar to operating rules of language, but there are some non-process elements which stem from the physiology of perception. Contrary to the commonly held view, perception of a picture (or anything else, for that matter) is not instantaneous. The complete image is crudely perceived as a whole but detailed perception is constructed through a process of scanning in a series of small rapid jerks of the eye (technically, saccades).

Professionals in film have a practical understanding of saccades. According to the winner of an Academy Award for editing, "one learns quickly in this business that the eye is attracted to light and movement." A linguistic model will not aid scholars develop a theoretical understanding of the constraints imposed by the physiological facts. We can ignore them, of course. To do so would risk a warped account of the comprehension of film.

The conventions of film are weak conventions; in a highly flexible system like film, conventions can be only approximate. At best they are quasi-conventions. Even the most conventional parts of the system are flexible. To the degree that filmmakers make films for an audience, they use a crude estimate of what the audience might be able to understand.

There are two sources of looseness in this process mitigating rigid conventions: the filmmaker's skill and intention, and the looseness of the filmmaker's estimate of the audience. Investigations of these quasi-conventions can be valuable so long as their status is explicitly clear. In such analyses, one is dealing with probabilities, not certainties. In short, one is dealing with an inductive system.

The broadest implication of the distinction between deductive logic and inductive logic applied to the analysis of film is that it calls into question the code-oriented structural approaches advocated in the early writings of Metz and others, and still present in some contemporary analyses. There is no distinction between filmic and cinematic. In this view everything is "cinematic."

If I am right that an inductive approach emphasizes the functional interaction of all code elements, it may begin to be possible to address seriously the relationship between dramatic presentation and cinematic depiction. The battle over the uniqueness of film as distinct from drama ceased a long time ago to be interesting. I suspect that drama is also an inductive system. Yet for reasons that are probably not relevant at this moment, our colleagues in Theater have a richer body of theory that is applicable to production than we do. We have practically no production theory except the prescriptive dogma of the early theorists. Can we continue to simply stipulate that film has nothing to do with theater? I doubt it. Instead I suspect that we could learn a great deal about both if we examined their similarities as inductive systems.

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Notes

1. See, e.g., John Lyons, *Introduction to Theoretical Linguistics*, (Cambridge: Cambridge UP, 1968).

2. John Howard Lawson, *Film: The Creative Process*, (New York: Hill and Wang, 1964): 184.

3. Christian Metz, *Film Language* (New York: Oxford UP); Sol Worth *Studying Visual Communication* (Philadelphia: U of Pennsylvania P, 1981); Calvin Pryluck, "Structural Analysis of Motion Pictures as a Symbol System," *AV Communication Review*, 16 (1968) 4: 372-402; "Toward a Psycholinguistics of Cinema," *AV Communication Review*, 15 (1967) 1: 54-75 (with Richard E. Snow).

4. Calvin Pryluck, *Sources of Meaning in Motion Pictures and Television* (New York: Arno Press, 1976) a reprint of my 1973 dissertation of the same name continued to be ambiguous on this point. It would be a few years more before I was prepared to make the argument of this paper.

5. There are likely different connotations and metaphoric meanings in various languages for even such simple words. These meanings are overlays which attach to the words themselves and not to their concepts.

6. The possibilities of editing were first argued and demonstrated in the 'twenties by Russian filmmaker-theorists V. I. Pudovkin and Sergei Eisenstein. Andre Bazin's critique of montage in the 'fifties presented a theoretical rationale for the long take. For Pudovkin's argument see his *Film Technique*, edited and translated by Ivor Montagu. (London: G. Newnes, 1933, reprinted with *Film Acting* (New York: Evergreen Original, 1958). Eisenstein's ideas are summarized in his *Film Form* and *Film Sense* translated in the 'forties by Jay Leyda and reprinted in a single volume (New York: Meridian Books, 1957). Selected essays by Bazin were translated by Hugh Gray and published in two volumes as *What Is Cinema?* (Berkeley: U of California P, 1967, 1971).