

*Social Philosophy
Социална философия*

HELLMAN ON THE PRIMACY OF BASE OVER SUPERSTRUCTURE IN HISTORICAL MATERIALISM

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Abstract. Geoffrey Hellman made one of the rare attempts stating a central historical- materialist claim known as the thesis of the “causal primacy of the base over the superstructure” with precision and in a way that would allow empirical testing of that thesis. To explicate that thesis, he introduces two principles which seem intended to complement each other. I explain and critically examine Hellman’s two principles and question whether they do justice to the historical facts, and moreover, whether the second principle can be said to be true to the content of the historical materialist primacy thesis.

Keywords: Historical materialism, base, superstructure, causal primacy thesis, causal law

In one of his articles, Geoffrey Hellman suggested a way of stating one central thesis of historical materialism with precision and in a way that would allow empirical confirmation or disconfirmation of that thesis.¹ Hellman’s suggestion could therefore be seen as a response to the common charge that historical materialism is either an empirically contentless theory that cannot be tested against historical facts, or, if it is an empirical theory, then it is a false one. The thesis in question is the claim that the “(material) base,” or “the material mode of production,” is causally predominant over, or “determines,” the so-called “superstructure.” Hellman uses the terms “base” and “the material mode of production” to mean the same thing; they are “understood to comprise what Marx calls the social forces of production and the social relations of production.” (p. 145) On the other hand, “The superstructure includes political and legal institutions, legal, religious, and moral codes, belief systems concerning the justification of social arrangements (ideologies), scientific and philosophic systems of thought, and the arts.” (p. 167, n. 1) Thus, Hellman wants to answer the question of what it means to say that the base has causal primacy over the superstructure. He says that the principles he formulates in answering that question will be of interest also in subjects other than historical materialism, because those principles

concern the general problem of assigning a priority to one part of an evolving complex system whose parts are all to some extent interdependent. Thus, in addition to their relevance for social theory, the principles to be presented are potentially of interest to other sciences dealing with evolving complex systems (such as biology and ecology) and to those concerned to develop a general theory of complex systems. (pp. 143 – 144)

In this paper, I will examine Hellman's proposed explication and clarification of the historical materialist primacy thesis through those principles.

I.

The first of Hellman's principles purports to reflect the historical materialist idea that the elements or factors comprising the base in a society at a given time "select," as it were, which type of superstructure is suitable to them, and that the type of superstructure which is not compatible with or fitting the base at that time either disappears, or dies out, or never comes into existence at all. Hellman points to the analogy between this relation between base and superstructure and the Darwinian notion of natural selection, according to which species which are not compatible with a certain type of environment cannot survive. Put in other terms, the materialist claim is that the "conflicts" between base and superstructure are usually (or in the long run or in the majority of cases) resolved in favor of the base. Hellman tries to capture this idea in the following way. He first defines the notion of surviving over:

[A]n element x of a social system S *surviving over* another element y in a given time period (say from t to t') ... [means]: x continues to exist in S from t to t' and y either alters substantially or ceases to exist by t' . (pp. 153 – 154)

Hellman then defines the notion of incompatibility:

Elements x and y in system S are incompatible (in period t - t') iff there exists a scientific law which takes an antecedent condition describing the state of S with x and y at t to the consequent condition that "either x survives over y or y survives over x in the period t - t' ." (p. 154)

Here by "law" is meant causal law, and it is assumed that "dynamic laws of at least an approximate character are in principle forthcoming for social systems." (p. 154) Intuitively speaking, "incompatible elements (relative to a given time period) are those that 'cannot' persist together throughout that period in the sense that some causal mechanism requires the elimination or substantial alteration of one of the elements." (p. 154) Although the phrase "substantial alteration" that occurs in those statements sounds vague, says Hellman, in practice there is generally an agreement between historical materialists and their opponents about what counts as a substantial alteration in those matters.

One might suggest that the materialist principle we are looking for can be formulated, using the notions just defined, simply as: in the majority of cases of incompatibility between base elements and superstructural elements, the superstructural elements get altered substantially, as a matter of causal law, rather than the base elements. But such a principle wouldn't be sufficient, according to Hellman, because in historical materialism the base does not only cause the "dying out" of the superstructural elements that don't fit it, but it also has what we may call a "preventive effect":

For example, a dominant set of property relations may function so as to rule out in advance certain social or political practices that *would* result in an incompatibility *were* they to arise. To omit such considerations would be seriously to underestimate the extent to which existing arrangements constrain alternatives that otherwise could arise and have an historical impact. (p. 155)

According to Hellman, such a consideration can be incorporated into the principle we are looking for, by means of the laws of the form,

"Any system S (of the appropriate type) whose base (respectively, superstructure) satisfies conditions $C_1 \dots C_n$ at time t will not exhibit any superstructural (respectively, base) element of kind K in the neighbourhood of t ." Here, the C_i [should be ' C_i '] describe relevant aspects of the state of part of S at t and K describes a kind of element that is "blocked" or "prevented from arising" in the other part. (p. 155)

An example, from the nonsocial realm, of the kind of laws Hellman seems to have in mind would be the "law" stating that, if a match is wet (i.e. one of the conditions C_i , say C_1 , is that the match is wet), it will not light upon striking. Thus the wetness of the match prevents or blocks lighting of the match.

Hellman next formulates the principle which would express the idea that base has causal primacy over the superstructure. Since his formulation is somewhat complicated (see p. 156), I will give a relatively simplified version of it. Using, as Hellman does, ' b ' to stand for base conditions and ' s ' to stand for superstructural conditions, the principle states:

In a system S developing over time the following obtain:

(a) In a large preponderance of incompatibilities, (1) between existing b and existing s elements: b survives over s ; (2) between existing b and kinds of relevant s alternatives (which don't exist, but it is possible that they could have existed): b prevents, or blocks, s .

(b) In a relatively small proportion of incompatibilities between kinds of relevant b alternatives and existing s , s blocks b .

This principle Hellman calls “dialectical base predominance”, because of the notion of conflict it is based upon.

Clause (a) (1) of the dialectical base predominance principle implies that, in the case of incompatibility between an existing *s* and an existing *b*, *s*’s surviving over *b* is a rare occurrence. In other words, in the case of conflict between them, *s* continuing to exist in *S* while *b* gets altered substantially doesn’t happen very often. Is that true? Consider a hypothetical case in which I start capturing slaves from some distant land and begin to use them in my plantation site in my country. I would be introducing a relation and force of production which has little survival value today, because of laws, contemporary ethics, human-rights pressures, and so on, existing in the superstructure of my society. Or suppose that I have actually installed a production method involving cruel use of animals. The existing superstructure today (animal-rights movement, religion, etc.) would make sure that such a way of production “dies out,” and does not become popular. The point of these and similar examples that can be given is this. There may have been a lot of incidents in history where some people or groups of people actually introduced some “modes of production,” or modified the existing ones (hence those modes of production were *existing b*’s for a while), but the existing *s*’s blocked them, or selected against them, in an analogous fashion to the natural selection. Hellman’s principle says, however, that such cases must be much less frequent than the reverse kind of situations, where existing *b*, i.e. the forces of production or relations of production, in a society causally necessitates that some incompatible superstructural element changes, or gets abandoned. As an example of the reverse kind of case, consider the occasional attempts in some contemporary capitalistic societies by some small groups of people to advocate and implement “communal life.” Such superstructural “communalistic philosophies” and fads are notoriously short-lived, presumably because they are in conflict with the capitalistic base. Hellman’s principle as it stands seems to entail that the first kind of case (e.g. the superstructure in modern society surviving over attempts to introduce slavery or make abusive use of animals for profit) should be much more scarce than the reverse kind of case (e.g. the capitalistic base surviving over communal-life initiatives), but I personally find it hard to make a comparison between the two kinds of case in terms of their relative frequency.

We can modify our slave and animal examples a little to also criticize the clause (b) of Hellman’s dialectical base predominance principle. Suppose that I am pondering about ways of improving my profits from my plantation and have come up with the idea of producing tens of children (with my wife) and using them as slaves in my plantation. But before I implement that idea, I would remember that such an idea wouldn’t work, because there are laws, there is police in my country, and moreover I am a very religious man. So, in this case *b* (using my children as slaves), which is a “relevant possible alternative” seems to get blocked by the existing *s*—in a causal way. In other words, there are causal laws (psychological, sociopsychological)

logical, etc.) in accordance with which I am prevented from implementing my idea, or my idea is prevented from becoming a widespread practice among other men. It certainly seems that just as, in the evolution analogy, nature eliminates existing or potential mutant individuals that don't "fit" it, the superstructure can eliminate the existing or conceived production forces and relations that don't fit it.

Hellman would object that, nevertheless, the cases in which *b* elements block unfitting *s* elements are more numerous, or in a large preponderance, in the history of humankind, compared to the cases in which *s* elements block unfitting *b* elements. But I think, once again, that it is a moot question which sort of case is more frequent than the other.² Concerning this point Hellman says "... obviously, it is impossible at this level of generality to be precise as to the difference in the proportions referred to" (p. 157), but he adds that some phenomena "support a significant difference in weighting between base and superstructure" (p. 158), in terms of their surviving over or blocking the other. One of the phenomena he is referring to is

the phenomenon of superstructural transformation in periods of revolutions in production relations in which base transformations are preserved and reinforced by those transformations. Another is that of "cultural lag," in which ideas and attitudes outmoded by base changes persist without blocking or undermining those changes, ultimately giving way to new cultural expressions. (pp. 157 – 158)

But, first of all, it is disputable whether Hellman is giving a correct description of what is happening in those "periods of revolution" and whether his account of "cultural lag" reflects what is the case. These are debatable matters and I don't wish to argue about them at length. I will only say that there are cases of revolutionary transformation in the base, which hardly brought about any changes in some elements of the superstructure. The nationalistic feelings and religion that stubbornly persisted in some countries which are said to have experienced those kinds of transformations (such as the former Yugoslavia, Poland, Russia, etc.) are cases in point: despite all the propaganda – and the "ideological propaganda" certainly seems to be coming from the superstructure and not from the mode of production – those elements stayed in those countries. (I think if the negative propaganda had not been made, the mode of production itself could hardly have made any change in the religious and nationalistic attitudes of those peoples. And if there had occurred *any* change at all in the superstructures of those transformed societies, it was thanks to the intense propaganda, ideological education, etc. and not so much because of changes in the production and ownership relations.) Secondly, Hellman himself gives examples showing the superstructural elements surviving over or blocking the elements of the base:

... why is it not the case that at a given time, the superstructure constitutes an environment selecting out *b* alternatives competing with each other for survival and effectiveness? One can give examples lending support to this....

(For example, prevailing political opinion “selecting out” one production technique over others, depending on, say, the expected resulting unemployment.) (p. 151)

And again:

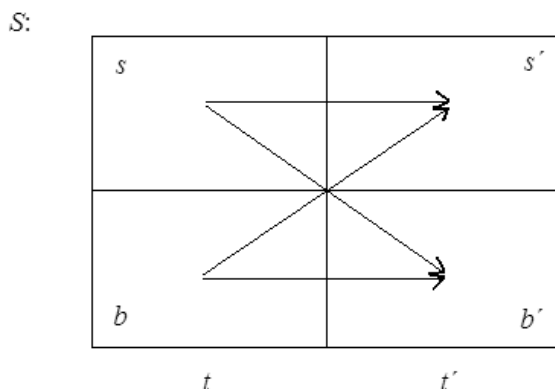
... it is equally the case that the superstructure loosely determines the base (*mutatis mutandis*). In fact, the latter “loose determination” may be even tighter than the former: given a description of legal and political forms, ideologies, artistic styles, etc., one may be in an even better position to reconstruct the productive forces and relations than *vice versa*. (p. 150)

I think that Hellman is perfectly right about this last point. But then it is difficult for the historical materialist to maintain that “in a large preponderance of cases” *b* survives over or blocks the emergence of *s*. To say the least, it seems doubtful that this happens in a large *preponderance* of cases.

My criticisms above are to the effect of showing the intuitive implausibility of Hellman’s principle, i.e. showing that the proportion of cases where the superstructure elements select out the base elements should not be as small as that principle suggests. Thus, *if* this principle is a correct rendering of the historical materialist notion of the causal primacy of base over superstructure, that is, if it does justice to the primacy thesis as a *meaning analysis* of that thesis (despite the element of vagueness involved in the principle³), the effect of my criticisms would be to question the empirical truth of the primacy thesis. But one may ask whether Hellman’s principle squares with the content of the historical materialist’s primacy thesis. There is one consideration that seems to me to indicate that the principle is too broad, as it asserts more than what is contained in the primacy thesis. Hellman regards science as part of the superstructure.⁴ And it is obvious that the level of scientific knowledge at any given time restricts what kind of production forces can be used in the society at that time. Thus the scientific knowledge in Antiquity did not allow computerized assembly-line production at that time. Shouldn’t we say, using Hellman’s terminology, that the science of Antiquity blocked, or prevented, the use of computerized production processes? For there are causal laws that entail that such a production method could not have emerged during Antiquity (because the science didn’t have the requisite knowledge at that time). Similar things can be said for all periods of history. Then we will have a huge (if not infinite) number of cases where *s* elements (such as medieval science) block *b* elements (such as robot-aided production). Yet, I think, we wouldn’t consider the nonemergence of production methods which require knowledge that is unavailable at the time as part of the *causal efficacy* of the superstructure on the base. I believe the problem lies in Hellman’s notion of blocking: some kinds of blocking, such as the lack of knowledge “blocking” certain types of production techniques, seem to be irrelevant to the question of the relation of causal primacy between base and superstructure.

II.

Let's now examine Hellman's second principle. He gives the following diagram to represent the causal relations between the base elements b and the superstructure elements s in a social system S at two consecutive time points t and t' , where t' is later than t :



The arrows represent, “intuitively, the contribution of factors within the left sector to the production of a change at the level represented by the arrow’s head.” (p. 159) Hellman wants to say that some of those arrows have greater weights. For instance, let ‘ $bb' > sb'$ ’ stand for the proposition that the arrow bb' has greater causal importance than the arrow sb' . Hellman’s explication of that proposition is the following:

[L]et r' represent the statement that a significant change in a single base variable, r , has occurred in S from t to t' Let $C_1^b \dots C_n^b$ represent antecedent base conditions in the time period t and let $C_1^s \dots C_m^s$ represent antecedent superstructural conditions in that period such that there is a lawlike truth of the form:

[(*)] If C_0 and C_1^b and ... and C_n^b and C_1^s and ... and C_m^s , then r'
 where C_0 represents other initial conditions (concerning the environment of S at t) required to get the result r' . (p. 159)

Thus, for example, “the C_1^b [should be C_j^b] might be conditions causing a fall in the rate of profit along with capitalists’ dispositions to maximize profits, to save, etc.; the C_1^s [should be C_j^s] might be conditions regarding government policy, beliefs in the moral and property rights of capitalists, etc.; and C_0 might concern exogenous factors such as the absence of world war, and so forth” (p. 160), and r' might state that in a capitalist system unemployment has risen by a certain amount. Now,

It may be, for instance, that the total change in r that would theoretically follow upon varying any or all of the C_1^b [should be C_i^b] while holding the C_1^s [should be C_j^s] and C_0 fixed would far exceed that which would follow upon varying any or all of the C_1^s [should be C_j^s] while holding C_1^b [should be C_i^b] and C_0 fixed. The variable r could then be said to be more *susceptible to change from b than to change from s*. I shall refer to this method as the *differential method*.... With its aid, the general weighting claim at issue can be defined:

(...) $bb' > sb'$ iff

a preponderance of b variables, v_b , at most times are more susceptible to change from b than to change from s , according to the differential method applied to laws of [the form (*)] with the v_b as resultant. (p. 160)

Now Hellman expresses the central thesis of historical materialism as follows:

In systems S diagrammed into two tiers over time:

(a) $bb' > sb'$ and

(b) it is not the case that $ss' > bs'$ [during major social transformations $bs' > ss'$ is the case]. (p. 164)

This last is a statement of the principle Hellman refers to as the principle of “differential base predominance.”

I think Hellman’s insight can be illustrated by the following analogy. Consider a large store. Let the average number of its customers per day be the variable r . We can cause r to change in several ways. We may beautify the store from an aesthetic point of view, we can hire nicer and smarter clerks, we can advertise on radio and TV, and so on. Think of these factors as the superstructural variables. All of these factors would presumably affect r , the number of customers of the store; some of them more, some less. Consider as one “base” variable in this example, the reducing (or increasing) of the prices of the items sold in the store. We can safely assume that the reduction of the prices would affect the number of customers more than beautifying the store, hiring better clerks, etc. would. So, using Hellman’s terminology, we can say that the number of customers is more susceptible to change from the “base” than from the “superstructure” here.

Another analogy which is a bit more congruent with Hellman’s intentions would be this. Consider a society in which there are two groups of people, reds and greens. Suppose that the reds are culturally more advanced than the greens, and have been coming up with new works of art, raising scientists, artists and intellectuals continually. (An historical approximation may be the Ancient Greeks and their “barbarian” neighbors.) On the other hand, the greens have little culture and intellectual output, and are being influenced by the culture of the reds all the time, whereas their contribution to the red culture is negligible. So, if r is the cultural level of the reds at any point of time, we can say that the red culture (“base” in this example) has superior causal efficacy over r than the green culture (“superstructure” in this example) has

over r . Similarly, Hellman is saying that the base (forces and relations of production) has more causal influence on itself than the superstructure has on the base.

Notice that this is not the usual primacy claim of historical materialism, which states that the base is causally more efficacious on the superstructure (rather than on itself) than the superstructure is on the base. In other words, Hellman's principle says nothing about the relative causal strengths of the arrows bs' and sb' , because, as Hellman himself notes, the trouble in trying to assess the truth of the claim $bs' > sb'$ is that

the differential method does not readily apply to comparisons of arrows with heads in different domains. As long as both heads are in the same domain, a comparison can be made by consulting sufficiently many laws of [the form (*)] with appropriately chosen r from that domain.... But when the heads are in different domains, the differential method would work only if the resultants [i.e. r 's] were selected as complexes with components from both b and s . Here ... serious problems of heterogeneity arise, since it would be necessary to have a single metric for changes in the complex factor based on changes in the components. Direct comparison of the diagonals seems a will-o-the-wisp. (pp. 163 – 164)

Moreover, there are "thorny problems of measurement in applying the differential method even in particular cases of a law of [the form (*)] governing a single magnitude r ." (p. 169, n. 23)

So, it seems that Hellman's second principle cannot easily be employed as a means of empirically testing the primacy thesis of historical materialism. First, it does not reflect the primacy thesis which in fact asserts the truth of $bs' > sb'$. Secondly, even if we assume that the differential base predominance is an expression of the primacy claim (it certainly does not say anything incompatible with the primacy claim), the testing of it poses, by Hellman's own admission, "thorny problems." One thorny problem that I can think of is: How can we test, by using the principle of differential base predominance, the well-known materialist claim (which is supposed to follow from the primacy claim) that the influence on the history of the so-called "great men" is minimal? How can we ascertain, by this principle, that if the society hadn't had the great person X , it would have produced a great person Y , instead, who would have performed the same historical function?

Besides, regardless of the problems involved in the application of Hellman's principle, it seems that the claim that the base usually exerts more causal influence on itself than the superstructure does on the base is dubitable. How do many, if not most, changes arise in the base, if not because of the scientific developments in the superstructure? If we do not account for the changes in the base in terms of scientific developments, we have to account for those changes in terms of geographic, climatic, geological changes or things of that sort. It hardly makes any sense to say that the steam engine (or the digital computer) came as a result of climatic (etc.)

changes or was accepted as a result of climatic (etc.) changes. It was a result of the accumulated scientific and technological knowledge, and was employed by intelligent people to change people's ways of life, and also to *improve* the production. It makes much more sense, and is more acceptable to one's causal intuitions, to say that the steam engine changed everything about the modes of production, than the other way around.

NOTES

1. Hellman is better known for his writings on philosophy of mathematics, philosophy of science and philosophy of logic.
2. Joel Dickman, who otherwise speaks favorably about Hellman's "neglected but auspicious" account of the notion of material predominance, expresses similar worries: "The counting of incompatibilities between existing elements and kinds of possible elements ... presents difficulties." (Dickman 1990, p. 642).
3. Hellman admits that there is some vagueness involved in his principle (Hellman 1979, p. 168, n. 16).
4. Observe Hellman's explanation of the notion of superstructure in our opening paragraph.

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