

How to Conceptualise Power? _____

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Abstract

This article aims at clarifying the medial concept of power, by making use of the work of the eminent German sociologist and social theorist Niklas Luhmann. It will be argued that this medial concept of power has clear theoretical advantage over other attempts at conceptualising power. This is so in that the medial concept of power manages to overcome the challenges of philosophical critique, especially the charge of ontological burden and essentialist presuppositions. On the other hand, the medial concept of power manages to position itself in the interface between sociology and political science, proving useful for both disciplines, something that other concepts of power cannot do. The article starts with Luhmann's critique of the classical theories of power, by identifying eight problems. Then some consideration is given to the analysis of power as medium, where the main ideas of Luhmann and Foucault seem to converge. Next, in order to further clarify the medial concept of power, the article deals with the question of influence, which ought to be distinguished from power. After this, the article takes a sociological twist, by giving an account of the transformation of power in modern society.

Keywords: *power; Luhmann; medium; influence; violence*

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Introduction

Niklas Luhmann's conception of power is formed by his methodological commitment towards constructivism. He argues that concepts, while being instruments that enable us to understand the world, at the same time necessarily blind us towards certain aspects of the world. Consequently, social theory cannot be based on actors' conceptual frameworks, but must construct new conceptual frameworks that enable the sociologist to observe how the actors observe and describe the world. This constructivist commitment towards second-order observation leads Luhmann when he develops the basic assumptions relating to the notion of power, in the critique he develops versus the classical concept of power, i.e., the capacity to act in accordance with individual will even against resistance from others. According to Luhmann, this classical concept of power, initially formulated by Max Weber, is supported by unsustainable ontological assumptions, but, nonetheless, is typically used by actors because of inherent limitations of their perspective on the world (first-order observation). This classical concept of power reproduces the illusion of actors that causality and intentions are true, while, in fact, as witnessed by second-order observation, they are contingent constructions that attribute effects to causes, identifying only two elements, a cause and an effect, in the chain of determinations that is potentially unlimited in both directions. Luhmann's power analysis begins with the critique against what he names "the classical theory of power", thus including a broad range of theories developed from different perspectives, but that have several features in common.

Critique of classical theories of power

The first problematic feature that Luhmann notes in the classical theory is suppositions of *causality*. As a prominent example of the way of conceptualising power and causality in the classical theory of power, Luhmann mentions the claim of Herbert A. Simon, who holds that the statement "A has power over B" can very well be replaced by the statement "A's behaviour causes B's behaviour" (Luhmann 1969: 150). The main implication, not only Simon's, but of the whole classical theory of power, is that power is conceptualised as a decisive event that makes the individual subjected to power act as he does *and* that this individual would have acted differently unless he were subjected to power. Luhmann is critical towards this causal framework. First, the examination of the causes of

power does not tell us the origin of power (Luhmann 1969: 150). Second, every effect has an infinite number of causes and likewise every cause produces an infinite number of effects. (Luhmann 1970: 16). Thus, the determination of the causal relationship is a contingent enterprise, an attribution dependent on observation and, as such, one that might have been different.

The second problem of the classical theory concerns the *intentionality* of exercising power. Luhmann refuses searching for goals or specific motives, which are supposed to stand behind the exercise of power. He states that motivation is no “cause” for action, but only attribution that enables a socially intelligible experience of action (Luhmann 1979: 120).

A third problem refers to the question where one can actually imagine the exercising of power as *decisive* on the actions of the individual subjected to power. Is it causally possible to exclude the possibility that the person subjected to power might have acted differently in all circumstances or, at least, that there were no other reasons for his action except for the power exercise?

The fourth problem of classical theory relates to *conception of time*. Classical theory of power implies a time conception where the future is seen as a determined projection, objective and already fixed by the past, in any case a future poor in alternatives (Luhmann 1969: 151-2). This is particularly obvious in the case of individuals subjected to power, whose future actions are supposed as predetermined before any actual exercise of power. In other words, the causal thought of classical theory must be abandoned, since, as Whitehead says, actual entities in contemporary universe are causally independent from one another (Whitehead 1978: 123).

A fifth problem of classical theory is that it imagines power as a substance that might be *possessed* (Luhmann 1969: 158-9). The question is that a simple reference to power possession, where power is transferred from a person to another and from a situation to another, completely hides the systemic conditions of this modality of power. Also the image of power as possession implies that in order to study power one must look for persons that are believed to “hold” it at a specific moment. In other words, the perspective of possession opens the way for an individualistic explanation, where power is attributed to individuals.

The sixth problem is linked with the supposition that exercising of power is a *zero sum game* where, for example, the increase of bureaucratic power is claimed to happen only if there is a loss of parliamentary power. Luhmann questions this supposition and argues that an adequate theory of power must be able to take into account that power often increases in a place without bringing with it correspondingly loss of power in other places. In fact, as Luhmann himself shows, organisational power increases simultaneously both for superiors and

for subordinates, when their internal relations are intensified (Luhmann 1969: 163; 1979: 179-82).

Luhmann notices a seventh problem of the classical theory of power in the explanations that depart from *anthropological suppositions*, wherein power is conceptualised as something that inhibits realisation of human dignified life. Such analyses for Luhmann are very broad to design specific and clear paths for empirical study and suffer from analytic limitations as long as they depart from existing suppositions about the character of the society analysed. One can also say that they are based on contested philosophical anthropologies, as is witnessed e.g. in the battles over the concept of “real interests.”

The eighth problem of classical theory is the explanation of power as *sovereignty* and the accentuation of the need for limiting its action, for example through constitutional formulae. Luhmann notices an inclination in the Western political tradition to refer to a “unified politico-legal system” (Luhmann 2004: 357). According to him, this conception of a unified system comes from the concept of the state, which is supposed to be simultaneously both legal and political. Luhmann emphasises that the conception of sovereignty and of sovereign power, wherein is based the state since its consolidation in early European modernity, has combined to different ideas of the political power: first, the idea of a *generalised* capacity for ensuring compliance to commands; second, the idea of legal force, which is reflected in the fact that power was presented and imposed in the form of law, i.e. in a form that had always already been *specified* in advance (Luhmann 2004: 359). Therefore, the concept of sovereignty combines law and politics in a single formulation.

Power as medium

The non-causal departure of Luhmann is the double contingency problem, thus, of an interaction situation where both *alter* and *ego* have generalised potential to conceptualise the facts as selections that imply denial, potential to deny these denials, and to construct other possibilities (Luhmann 1976: 509). For Luhmann, several symbolically generalised communication media have emerged historically, such as truth, money, love, power, and each of them, in a functionally equivalent way, treat the principal problem of sociality, i.e. the problem of double contingency. Power, as one of these media, offers a mechanism for coordinating the selections of alter and ego. Luhmann differentiates the symbolically generalised communication media according to the way they link the action or experience of ego to that of alter. In the case of power, of interest is the coordination of ego’s *action* to that of alter’s. Thus, the function of the

medium of power is the increase of probability that ego uses alter's action as a premise for his own action, or, in other words, ego's motivation for conditioning his own action through alter's action (Luhmann&De Giorgi 2003: 120). This conception of power as a relation of action to action is equivalent with Foucault's conception of power (in the form of governmentality) as conduct of conduct, with the important distinction that Luhmann is explicitly interested in regulation of *selections*, of the selected action by a selected action (Luhmann 1976: 517).

But there are also other elements where Luhmann and Foucault converge. For example, the close relationship between power and freedom insisted by Foucault, in Luhmann is implied by the concept of selection. If ego *cannot* act in discordance with alter's demands, then there is no need for power. In contrast to this, power ends the moment ego is constrained to obey. Constraint means that there is no regulation of contingency, i.e. that the principal problem of sociality is not being addressed, or that there lacks the trust that this problem can be addressed through the medium of power. Consequently, constraint can only be exercised with a specific cost: the person who exercises constraint must take upon himself the burden of selection and of the decision at an equal measure with the constraint exercised, in that the responsibility for reducing complexity (the cardinal problem of social systems) is not distributed, but is rather transferred to the person who exercises constraint (Luhmann 1979: 112).

Another feature that unites Luhmann with Foucault is connected with the critique that the latter makes to the sovereignty discourse and to the claim that power can be possessed and transmitted as a substance. Foucault's attempt to get away from this conception of power is to focus on extremely relational character of power (Foucault 1990: 95). Also Luhmann distances himself from understanding power substantially and ontologically, and refers to the medial character of power. Understood as a medium, power is nothing else but code oriented communication (Luhmann 1979: 116), or, as Foucault says, nothing else but the name we give to this communication (Foucault 1990: 93).

However, although Luhmann was against the ontological definition of power, in his earlier work one finds ontological formulations. For example, in his monographic study on power in 1979, he writes that the function of communication medium is transmission of reduced complexity, and also in the case of power the main interest is the transmission of selection (Luhmann 1979: 113). Thus power is presented as a question of transmission of selection, as if these were tangible entities that might be posted. But later Luhmann changes his position, in that he realises the flaws of the "transmission" metaphor. In 1984, when he publishes his principal work on social systems, he gives the argument that the transmission metaphor is unusable, since it implies too much ontology. It suggests that the sender sends something that is then received by the receiver. This is not correct, for the sender does not

send something in the sense that he does not have it anymore. The whole metaphor of possession, having, giving and taking, the whole 'thing metaphor' is inadequate for understanding communication (Luhmann 1995a: 139). Consequently, this metaphor is inadequate for understanding power.

Thus Luhmann reconstructs systems theory in such a way as to liberate its foundational concept, communication, from the idea of a sender and a receiver. Instead, he conceptualizes communication as a triple selection of information, utterance, and understanding. This displacement of conceptual perspective has consequences for the notion of power, too. Now power must be conceptualised without the ontological notion of transmission. Luhmann implements this by using the distinction between *medium* and *form*. The medium of power is described as loose coupling of objectives and sanctions of power, while the form of power is constituted by the distinction between obeying an order and its alternative, viz. the negative sanction. The limits of power are to be found there where ego begins to prefer the alternative of avoiding the sanctions, and also himself demonstrates power to force alter either to give up or to impose the sanctions. Thus, on one hand, there seems to be a loose coupling of elements which, being threats, are not consumed in usage but are rather renewed and, on the other hand, a temporary strong coupling; forms that combine instructions and compliance to them (Luhmann 2012: 212).

By conceptualising power as medium, Luhmann positions himself against the idea that power has the main role in society, or that power must be considered the main notion for constructing a theory of society. Actually, as mentioned above, Luhmann attributes this role to the concept of communication. Moreover, as a medium, thus as product of evolution, power is conceptualised in an evolutionary framework and not within a general and unhistorical theory of power. Power is observed as emergent solution to a specific evolutionary problem, which is linked to the fact that because of escalation of societal complexity, it becomes increasingly difficult to rely on situational convergence of interests in order to regulate and condition contingent selections. In this situation, the development of power as a way to regulate contingency, becomes unavoidable priority for further evolution (Luhmann 1979: 116).

Forms of influence

According to Luhmann power can only emerge in uncertainty conditions, i.e. in conditions that are entirely determined, but also allow for realisation of alternative possibilities. These conditions come from functional differentiation of systems of modern society: autopoietic systems are uncertainty fields in that

they produce themselves their own structure and are not dependent on external determinations. One of these uncertainties is linked to the fact that society members are dependent on one another. Thus, uncertainty concerns how the others will react versus our actions. The ways of taking into consideration the actions of others give birth to *influence*, in other words, to the capacity to act effectively in relation to others.

Luhmann distinguishes three symbolic forms of influence. He names the first form *uncertainty absorption*. This form concerns the attribution that actors, if required, would be able to give reasons for their affirmations. But social power that results in this way remains diffused and can be challenged quite easily. Another and stronger form of influence is based on *positive sanctions*: exchange relations manage very well to structure actions. However, economic power that results from this is limited, since it comes to an end were positive sanctions not to be fulfilled or were they discovered to be illusory. The third symbolic form that influence has taken in modern society is based on *negative sanctions*. Political power that results from this form is stable enough to function as a symbolically generalised communication medium for the political system (Luhmann 2010: 99-100).

But in order for influence to serve as raw material for transformation into power, it needs to be generalised. More concretely, what needs to be generalised is the motivation of ego to accept alter's the selection of action. Acceptation of influence means, for ego, that he must select his own action (as a reaction towards alter's action) and, to do this, he needs to be motivated. These motivations can be generalised in the temporal, fact, and social dimensions.

Temporal generalisation neutralises differences in time: Ego accepts the influence since he has done it before, in that there is a history that tends to be repeated continuously. In the case of fact generalisation differences in content are neutralised: Ego accepts the influence since he has done so in other situations and because he transfers the positive experience towards a communicative content to the likewise positive judgement towards another communicative content. In the case of social generalisation social differences are neutralized: Ego accepts the influence because that is what others do, too. (Luhmann 2010: 80).

Luhmann names these types of influence generalisation in the dimensions of meaning respectively *authority* (influence generalised in time), *reputation* (influence generalised in relation to contents), and *leadership* (influence generalised at the social level). Thus authority, reputation, and leadership are generalisations of motivations to accept influence. Formation of authority is based on differentiation of *chances* supported by previous actions. When a communication that exercises influence has been successful, whatever its motive, expectations are consolidated that raise probability, facilitate acceptance

of communication, and make it hard for rejection to occur. After a period characterised by acceptance without rejection, every rejection generates a surprise, disappointment, and unforeseeable consequences; and, that is why it requires specific reasons. Symmetrically, until the contrary is proven, authority needs no justification, since it is based on tradition.

Reputation is based on the supposition that it is possible to be given other reasons in favour of the justice of influenced action. Generalisation on the level of contents moves in a direction which, more than other types of generalisation go close to cognitive mechanisms. For this reason the very theory of science could make use of the concept of reputation in order to replace the concept of truth. Thus generalisation of motives would be realised by the fact that a general expressive and argumentative capacity is accepted *in a relatively uncritical manner* and is transferred from cases where it has proven fruitful to other cases. Also in this case the basis of the relation is representation of *a possibility*: the possibility to carry out ultimate verifications and to express doubts, which, nevertheless, is not practised. This possibility contains an element of indeterminacy (or better: it is not necessary for it to be completely determined) that accepts generalisation. Therefore, the more evident and universally acceptable are the reasons given for making certain decisions, the lower is reputation.

Leadership is based on the reinforcement of availability to conform, because of the experience that others, too, do conform, i.e., at the bottom line, it is based on *imitation*. Thus the influence is accepted since others accept it as well; and symmetrically the latter accept the influence because that is what the former do. If it is possible to exercise influence on more persons, then the leader is authorised to select the person to influence. He augments his own alternatives, which, from their part become orientation factor for others. The leader becomes independent of the concrete conditions under which a subject might obey. The subject loses the possibility available to himself, thus being forced (but not necessarily) to mobilise the group against the leader. Likewise, the leader must try to preserve a group atmosphere, even if it fictitious, in order to keep the supposition that now and then the others would accept him as leader and in order to isolate the deviant subject (Luhmann 2010: 81-2).

However, for Luhmann these are analytical types, since in reality it is impossible to use only one of them in order to generalise influence. Thus, the leader cannot only rely on the social dimension of expectations based on imitation, but also ought to somehow refer to the validity of motives in time, as well as to reputation that comes from correct and effective decisions in given sectors. And since the validity of influence is relevant in relation to themes and persons, also temporal generalisation (authority) cannot be realised via excluding entirely the reputation and gets close to the social dimension once it begins to be communicated. The

opinion of others and their predisposition to conform has special importance when a demand or an order is not followed by immediate and direct obedience (Luhmann 2010: 82-3).

Transformation of power in modern society

Luhmann formulates three main theses in order to characterise the relations of power in modern society. The first concerns *the law of transformation of positive sanctions in negative sanctions* (Luhmann 1990: 158). This thesis is related to the sources of power. According to Luhmann, the principal social source of power is always control over superior physical violence, whereupon the state is built. Without this control the state would be impossible. Even the law presupposes control over these sanctioning means. The prospect of maintaining an advantage with regard to use of physical violence has specific qualities that seem appropriate for building the foundation of power. This is because (1) physical violence is generalisable in very different contexts, independent of what is enforced through the threat of physical violence; (2) it presents itself as relatively reliable – independent of the type and intensity of motives for resisting it; and (3) it is capable of being organised well – can be transformed into decisions by others about the application of physical violence, and these decisions can be conditioned and programmed.

Luhmann regards these qualities of physical violence as the foundation of law and politics in modern society. However, when he turns to the contemporary welfare state, he says that this state cannot be characterised adequately by taking into account only the power based on physical violence. Actually, by searching for other foundations for politics, the welfare state enters a terrain of power that carries problematic aspects. This is characterised by inclinations to transform positive sanctions into negative sanctions. Luhmann is aware that it is difficult to make the distinction between these two kinds of sanctions and that this is a matter of interpretation, a matter of definition of the situation. Nonetheless, he offers a distinction criterion. If one clearly expects and relies on positive performances, then their withdrawal becomes a negative sanction. For example, when assistance is offered with certain regularity toward a target group that secures its living via it, the possibility of withdrawal of assistance appears as a threat and is thereby transformed into a negative sanction. The same thing may be said about the employees, which can be made to feel the threat of firing, or for partners that have been conducting business for a long time together etc. Thus, the more that one becomes accustomed to advantages, the more that potential power grows as a result of possibilities that have accrued to negative sanctions: the potential power

of withdrawal. In this way social power is increased: as the power of helpers and caretakers; as the power of those who participate; as the power of those who grace an affair with their consent or their presence or who draw attention to this fact through their rejection of it; as the power of all those who can change things by saying “no!” to existing expectations.

Luhmann says that this kind of power is, in part, harmless, in part excluded, through the protection of claims as legal and political maxims. But the chances of transforming positive sanctions into negative ones continually arise through the ever increasing services provided by others. Thus, these become sources of power with politically dangerous properties. They are (1) not capable of being centralised (unless through the centralisation of all assistance) and remain distributed diffusely; (2) their use cannot be controlled; (3) they are suitable mainly for obstructing instead of promoting specific behaviour. The power of withdrawal becomes a political problem as the power to block (Luhmann 1990: 158-160).

Luhmann’s second thesis is that *power in modern society is no longer exercised on the basis of social stratum but on the basis of formal organisation* (Luhmann 1990: 158). The relationships of power in the contemporary societal system cannot be understood if one begins from the concept of a ruling stratum, class or elite. Of course, there are persons who occupy positions of leadership and who have their contacts facilitated within such leadership groups. But leadership in such leadership groups does not manifest itself as family or social refinement but arises out of the perception of organisational positions. Unlike former societies, one cannot assume that a stratum of society creates solidarity among its members. And it is improbable that stratum-specific modes of behaviour direct the process of the exercise of power successfully. This would correspond to a type of society in which political power still resides essentially in the control of access to superior physical violence. For Luhmann, this is no longer the case. Today, any increase, material diversification and refining of power depends on formal organisation. This is notably true in the case of the development of longer and more permanent chains of power, for indirect forms of its use in directing the exercise of power by other and for its increasing effectiveness in the sense that with *one* decision a person can trigger *many* resulting decisions.

The organisation is a mechanism that differentiates and distributes power, but not as a pre-given commodity. The distribution, for its part, creates and changes whatever is distributed. Luhmann says that the bourgeois theory of society had wanted to introduce the mechanism of differentiation into the theory of the separation of power and the theory of economic competition in order to limit power and to reduce it to what is legally permissible or legally rational. But in implementing this programme one unavoidably discovered that the formation of organisations also multiplies power – even if not in centrally controllable forms.

In this way the problem situation was gradually displaced. According to Luhmann, today the question is not so much that of the misuse of power as whether, through organisations, our society does not produce too much unusable power (Luhmann 1990: 161-2).

Also organisational power is nothing but a case of application of transformation of positive sanctions in negative sanctions. It relies on the fact that membership in organisations can be given as an *advantage*, whereas not giving of membership or its withdrawal can be determined as *negative sanction*. This is typical in the organisational reality of hiring and firing. But, nonetheless, power in organisations cannot rely only on this way, for it is too crude and is actually used only to take decisions in cases of serious conflicts. Thus the transformation of membership advantages in a negative sanction that follows from not giving or withdrawing it is only used in extreme situations and generates power only as long as the sanction *is not exercised*. According to Luhmann, one does not allow conflicts to arise that could threaten membership, unless one had already decided to leave the organisation and created a final heroic conflict to serve as a pretext for this (Luhmann 1990: 162). Moreover, power is also refined through control of personnel decisions, which is linked with members' carrier in the organisation. Thereby, how high one's position is in the organisational ladder becomes an instrument of power. And nonpromotion, indeed reorganisation itself accompanied with a redistribution of certain disadvantages, becomes an instrument of power to which one adjusts through anticipating one's superior.

Luhmann's third thesis is related to *the birth of significant differences between real power and attributed power, accompanied by inflationary or deflationary trends in power-communication* (Luhmann 1990: 158). As a consequence of the existence of complex organizational systems within society, organization power is assessed differently from outside the organization and from within. Viewed from outside, the homogeneity of the organization and the ability to implement organizational power is typically overestimated. Power is attributed to the top; while in truth complicated balances of power exist that vary with topics and situations. As a result, more power is attributed to the top than it actually has. This process of causal attribution does not remain without an effect on the actual relationships of power. Outwardly, the organization has to honour the attribution of power, for otherwise persons outside the organization would not be able to see and treat the organization as an order. But for outsiders, to deal with the organization, simplifications are necessary that permit commerce with the outside. For this reason, the prestige of the top's power has to be promoted and sustained. In this way the external attribution of power becomes a power-factor in internal conflicts. Top level persons can threaten to leave the organization or otherwise create situations that make apparent to the environment that the organization

does not function like a decisional and implementational unity. This forms the basis of a kind of informal power of the formal top that rests merely on the fact that power is attributed to it and this attribution, as a symbolically generalizing process, is sensitive to information about facts. According to Luhmann, this applies to individual organizations in quite varying degrees; for political parties more than for universities, for organizations in the area of mass media more than for the postal service, for the military more than for banks (Luhmann 1990: 163-4).

By transferring the concepts of *inflation* and *deflation* from the theory of money to the theory of power (since these are both symbolically generalised communication media), Luhmann says that as with a money economy, there also seems to be a *limitedly meaningful overdraft of resources* in the domain of power that is comparable to credit. The holder of power makes more decisions and has more of his or her decisions complied with than he or she could effect in case of conflict. If the holder of power makes *too little* use of the power attributed to him and limits himself to the power that he “really has”, he triggers a *deflationary* trend. He operates too close to his means of sanctioning. And the danger in this is that he does not escape the zone of threatening to exercise power into that of successfully exercising it. Conversely, if the holder of power relies *too strongly* on the power that is merely attributed to him, he triggers an *inflationary* trend. In this case he becomes dependent on visible successes that demonstrate that he has power. At the same time he is also made vulnerable by crises that show that he cannot cover his decisions with sanctions (Luhmann 1990: 164-5).

References

- Foucault, Michel. 1990. *The History of Sexuality. Vol. 1*. Vintage Books.
- Luhmann, Niklas. 1969. “Klassische Theorie der Macht. Kritik Ihren Prämissen.” *Zeitschrift für Politik*, 16, 149-70.
- Luhmann, Niklas. 1970. “Funktion und Kausalität” in N. Luhmann, *Soziologische Aufklärung. Aufsätze zur Theorie sozialer Systeme*, 113-36. Westdeutscher Verlag.
- Luhmann, Niklas. 1976. “Generalized Media and the Problem of Contingency”, in J.J. Loubser et al (eds.) *Explorations in General Theory in Social Science. Essays in Honor of Talcott Parsons*, vol. 2, ff. 507-32. Free Press.
- Luhmann, Niklas. 1979. *Trust and Power*. Wiley.
- Luhmann, Niklas. 1990. *Political Theory in the Welfare State*. Walter de Gruyter.
- Luhmann, Niklas. 1995. *Social Systems*. Stanford University Press.
- Luhmann, Niklas & Raffaele De Giorgi. 2003. *Teoria della società*. Franco Angeli.
- Luhmann, Niklas. 2004. *Law as a Social System*. Oxford University Press.
- Luhmann, Niklas. 2010. *Potere e complessità sociale*. il Saggiatore.
- Luhmann, Niklas. 2012. *Theory of Society, Vol. 1*. Stanford University Press.
- Whitehead, Alfred N. 1978. *Process and Reality. An Essay in Cosmology*. Free Press.