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Differentiation

1. System Differentiation

Since its inception, sociology has been concerned with differentiation.[1] The term alone deserves attention. It stands for the unity (or establishment of the unity) of difference. Older societies, too, had naturally observed differences; they distinguished between town dwellers and country dwellers, between nobles and peasants, between the members of one family and those of another. But they were satisfied to note the differing qualities of beings and ways of life and to form corresponding expectations, as they also did in dealing with things. The concept of differentiation allowed a more abstract approach, and this step toward abstraction is likely to have been caused by the nineteenth-century tendency to see unities and differences as the outcome of processes—whether of evolutionary developments or (as in the case of politically united "nations") of purposive action.

Toward the end of the nineteenth century, this concept of differentiation made it possible to switch from theories of progress to structural analysis, while nevertheless adopting the economist's belief in the productiveness of the division of labor. Talcott Parsons's general theory of the action system still built on this concept, which offered a key formula both for analyzing development (increasing differentiation) and for explaining modern individualism as the result of role differentiation. It led Georg Simmel to analyze money, Émile Durkheim to reflect on changes in the forms of moral solidarity, and Max Weber to develop his concept of the rationalization of different orders of life such as religion, the economy, poli-

tics, and eroticism. The dominance of the differentiation concept proves useful precisely because it does not exclude seemingly disparate theoretical approaches—to development, to individuality, to value criteria—but rather gives access to them. In sum, differentiation is necessary to maintain cohesion under conditions of growth.

The differentiation concept enabled modern society to admire and criticize itself. It could regard itself as the irreversible outcome of history and look to the future with a great deal of skepticism. For Simmel as for Weber, highly developed "form" is a correlate of differentiation, as is the emergence of individuality for practically all the classical sociologists. At the same time, however, form is not to be had without a disturbing loss of meaning: it always involves restriction and renunciation; and individuality does not make the individual what he would like to be, but produces the experience of alienation. Together with individual particularity, awareness develops of what this particularity does *not* entail, generating, since the end of the nineteenth century, various theories of a plural self, of conflict between personal and social identity, or of contradictory socialization.

This overdetermination through connectivity options is, however, at the cost of conceptual clarity.[2] I therefore limit the concept to the special case of system differentiation, thus making it more difficult to draw over-hasty conclusions about individual behavior from structural problems in societal differentiation. Naturally, this does not prevent us from speaking of role differentiation or differentiated taste, of conceptual differentiation, or of terminological differentiation in a quite general sense. Everything that is distinguished can, if we mean the result of the operation, also be described as difference. However, my thesis is that other differentiations arise from the differentiation of systems and can therefore be explained by system differentiation; and this is so because every operational (recursive) connection of operations generates a difference between system and environment.

If a social system emerges in this manner, I speak of it differentiating out [*ausdifferenzieren*] against what this process then makes into the environment. Such outdifferentiation can, as in the case of the societal system, take place in the unmarked space of meaningful possibilities (that can become open to marking only through differentiation), hence in the otherwise unlimited world. But it can also take place within already formed systems. This is the only case I shall call system differentiation, or, when

considering the difference mentioned, internal differentiation of the system concerned.

System differentiation is thus nothing other than recursive system formation, the application of system formation to its own result. The system in which further systems arise is reconstructed by a further distinction between subsystem and environment. From the perspective of the subsystem, the rest of the comprehensive system is now environment. For the subsystem the overall system now appears to be the unity of the difference between subsystem and subsystem environment. In other words, system differentiation generates intrasystemic environments. To employ a now familiar term, we are dealing with the "reentry" of the distinction between system and environment into what has been distinguished, into the system.[3]

It is important to understand this process with the necessary precision. It does *not* involve the *decomposition* of a "whole" into "parts," in either the conceptual sense (*divisio*) or the sense of actual division (*partitio*). The whole/part schema comes from the old European tradition,[4] and if applied in this context would miss the decisive point.[5] System differentiation does not mean that the whole is divided into parts and, seen on this level, then consists only of the parts and the "relations" between the parts. It is rather that every subsystem reconstructs the comprehensive system to which it belongs and which it contributes to forming through its *own* (subsystem-specific) *difference between system and environment*. Through system differentiation, the system multiplies itself, so to speak, within itself through ever-new distinctions between systems and environments in the system. The differentiation process can set in spontaneously; it is a result of evolution, which can use opportunities to launch structural changes. It requires no coordination by the overall system such as the schema of the whole and its parts had suggested. Nor does it require all operations carried out in the overall system to be distributed among subsystems, so that the overall system can then operate only in the subsystems. Even a highly differentiated society allows a great deal of "free" interaction. The consequence is a differentiation of societal system and interaction systems that varies with the differentiation form of society.[6]

The differentiation process can thus begin somewhere or other and somehow or other and reinforce the deviation that has arisen.[7] One settlement among many comes to be preferred where the advantages of centralization are mutually reinforcing, so that finally a new distinction develops

between town and country. It is only this development that makes other settlements into "villages" as opposed to the town, villages that gradually adjust to the idea that there is a town where people can live differently than in the village and that, as the environment of the village, modifies its possibilities.

In the context of system differentiation, every change is therefore a double, indeed, multiple, one. Every change to a subsystem is also a change to the environment of other subsystems. Whatever happens, happens in multiplicity—depending on the system reference.[8] Thus a rapid decline in the demand for labor in the economy brought on by economic developments or competition can induce an increase in rationality and efficiency, while in the political system, in the families affected, in the educational system of schools and universities, or as a new subject of research for scholars ("the future of work") it can set off quite different causal series on account of changes in the *environment* of these systems. Even though it is the *same* event for all systems! This sets off enormous dynamization, almost explosive reactive pressure, against which single subsystems can protect themselves only by erecting high thresholds of indifference. Differentiation therefore necessarily increases both dependence and independence under the specification and systemic control of the aspects in which one is dependent or independent. As a result, subsystems develop exclusively as operationally closed autopoietic systems.[9]

Switching from the whole-part schema to that of system-environment in analyzing society facilitates the coordination of systems theory and evolution theory.[10] It provides better insight into the morphogenesis of complexity. It shows more precisely *how* unity can reenter itself by means of distinctions; and it leaves completely open how many such possibilities there are, and whether and in what form they can be coordinated.

In many other regards, too, systems theory offers a greater wealth of logical structure than the tradition of thinking in wholes and parts. It can (and must), for example, distinguish between system-environment relations and system-system relations (tradition knows only the latter). Only with the distinction between system and environment does the system capture the unity of the world or the unity of the comprehensive system, and it does so by means of a self-referential distinction. With system-system relations (e.g., between family and school) it captures only segments of the world or of society. However, it is this very segmentariness that makes it possible to observe the given other system as system-in-its-own-environment

and hence to reconstruct the world or society from the perspective of observing observations (second-order observation). In the environment of other systems, the system that observes them is also to be found. The overall system that opens up these perspectives thus puts pressure on itself, so to speak, to reflect.[11]

In the system-system relations permitted by a societal order of differentiation, only such structural couplings can exist that do not cancel out the autopoiesis of subsystems. This is true, for example, of relations between villagers in segmentary societies, and for relations between castes or estates of birth [*Geburtsstände*] in hierarchical orders, and, in much more complex and complicated forms, also of relations between the functional systems of modern society. What functions as *structural coupling* in relations between subsystems is, however, also a *structure* of the comprehensive system of society. This justifies describing societal systems above all in terms of their form of differentiation, for this is the form of structure formation that determines and limits what structural couplings between subsystems are possible.

Finally, switching from the whole-part schema to the system-environment schema changes the value of the "integration" concept. In old European thinking, there was no special term for this, for integration of the parts was presupposed in the wholeness of the whole as *ordinata concordia* [well-ordered concord], and expressed with regard to single phenomena as their nature or essence.[12] Classical sociology reformulated the problem as a more or less regular relationship between differentiation and integration. Differentiation, it was claimed, could not be carried to the extreme of complete indifference. "Quelques rapports de parenté," in Durkheim's view,[13] followed alone from the circumstance that the differentiation of a system was at issue. Parsons put it this way: "Since these differences are conceived to have emerged by a process of change *in* a system . . . the presumption is that the differentiated parts are comparable in the sense of being *systematically* related to each other, both because they still belong within the same system and, through their interrelations, to their antecedents."[14] The concept of integration is, however, mostly left undefined,[15] and, as critics have pointed out, ambiguous.[16] Inadequately considered premises for consensus often feed into the empirical conditions for integration.[17] As a result, the term continues to be used to express perspectives of unity or even expectations of solidarity and to urge appropriate attitudes—in the old Euro-

pean style! The historical process is described as one of emanation: out of homogeneity comes heterogeneity, and heterogeneity replaces homogeneity by requiring differentiation and integration at the same time.[18] Under such circumstances, mobility is often claimed to assume the function of integration, and "mobilization" is therefore considered one of the crucial recipes for modernization policy in developing countries (as long as the chaotic consequences of migration and urbanization do not demonstrate the contrary).

However, a normative concept that promotes or at least approves of integration must face growing opposition in societies that are becoming more complex. Retaining such a concept imposes paradoxical or tautological, self-implicative formulations.[19] Communication of the precept (and how else is it to become reality?) will provoke more "noes" than "yesses," so that the hope of integration finally leads to rejection of the society in which one lives. What then?

To avoid such overinterpretation, I take integration to mean no more than reduction in the degrees of freedom of subsystems due to the external boundaries of the societal system and the internal environment of this system they define.[20] For every autopoietic system that differentiates out generates internal indeterminacies, which structural developments can either augment or reduce. Under this definition, integration is hence an aspect of dealing with or using internal indeterminacies at the level of both the overall system and its subsystems.

Unlike the societal system, its subsystems have two environments: that external to society and that internal to society.[21] So defined, integration is neither a value-laden concept nor "better" than disintegration. Nor does it refer to the "unity" of the differentiated system (which, purely in terms of conceptual logic, follows from the fact that, although there can be more or less integration, there cannot be more or less unity). Integration is hence not commitment to a unity perspective, let alone a matter of "obedience" on the part of subsystems to central authorities. It lies, not in the relation of "parts" to the "whole," but in the shifting, also historically variable adjustment of subsystems to one another. Degrees of freedom can be restricted by the conditions of cooperation, but even more strongly by conflict. The concept is therefore not directly concerned with the difference between cooperation and conflict: it is superordinate to this distinction. The problem of conflict is the excessive integration of subsystems,

which mobilize more and more resources for the dispute, withdrawing them from other fields; and the problem of a complex society is then to ensure sufficient disintegration.

Such restriction can develop where connections come into play—connections between operations or connections between operations and structures—without consensus being required.[22] This saves attention in psychic systems and the coordination of intentions in the social system. The "restriction" is not noticed. This is a relief. On the other hand, it makes any change to the "tacit collective structure," as it is often called, more difficult. Accidents or failures are often needed to produce awareness that reliance had been placed on coordination that had not necessarily occurred.

If we look into the conditions for integration/disintegration, we ultimately encounter a temporal relation. For everything that happens (if considered from a temporal point of view) happens simultaneously. The consequence is, first, that simultaneous events cannot mutually influence or control one another; for causality requires a time difference between cause and effect, hence a crossing of the temporal boundaries of what happens simultaneously. On the other hand, the unity of an event, an accident, an action, an eclipse of the sun, or a thunderstorm can take very different forms depending on the interests of observers. It is not necessary to heed system boundaries. Tabling a budget in parliament can be an event in the political system, in the legal system, in the system of the mass media, and in the economic system. This means that integration takes place continuously in the sense of the mutual restriction of the degrees of freedom enjoyed by systems. But this integration effect is limited to single events. As soon as we take account of prehistory and consequences, as soon as we thus cross the time boundaries of what happens simultaneously and take recursions into account, the magnetic field of the system acts on identification; the legal act of introducing the draft budget is then something other than an occasion for reports and comments in the media, something other than the political symbolization of consensus and dissent, something other than what the stock markets perceive. In the pulsation of events, systems integrate and disintegrate themselves from one moment to the next. If repeated and then anticipated, this may influence the structural development of the systems involved. Humberto Maturana speaks of "structural drift." But the

operational basis for integration/disintegration remains the single event, which is identified simultaneously at a given moment in a number of systems. No action can be adequately planned, no communication successfully launched without mastering this complicated mechanism, however biased the interest-driven and systemically conditioned contributions may prove to be.

Integration is thus a state of affairs fully compatible with the autopoiesis of subsystems. There are innumerable event-like operational couplings, which continuously produce and dissolve relationships between systems. Monetary payments, for example, are and remain operations of the economic system in the recursive network of previous and subsequent payments.[23] But to a certain extent they can be made available for political conditioning in the recursive network of political targets and political consequences. In this way, systems continually integrate and disintegrate, being only momentarily coupled and immediately released for self-determined follow-up operations. Such temporalization of the integration problem is the form that highly complex societies develop to process dependencies and independencies between subsystems at the same time.

On the operational level, societal differentiation therefore demands the constant signaling of distinctions. In tribal societies, such distinctions are partly decided by the area of settlement to which people belong; but a highly developed kinship terminology is also used, setting boundaries against more distant relatives or nonrelatives. The special status accorded strangers communicates boundaries. In aristocratic societies, great value is placed on the distinctive characteristics of the noble way of life, and the distinctions are chosen so as always to connote the negative side, what is "common" or "uncouth." Now all the more, communications in functionally differentiated society must convey attribution and demarcation aspects; but perceptible signs can no longer be used for this purpose, or only to a very limited extent. For example, if, as often happens with technology, a lack of well-founded scientific knowledge puts investment at risk, understanding for precisely this distinction is necessary if the right decisions are to be made. To orient oneself on the otherness of the other does not suffice. The difference itself demands attention. The distinction itself has to define the operation; this distinction and no other.

This often suggests dedifferentiation, or that differentiation theory lacks realism.[24] And it is true that communication of a distinction gives

expression to the *context* of what is distinguished. But precisely to the context of *what is distinguished*. Unity (of the operation) and difference (of the observation schema) have to be actualized in one move. Only thus can differentiation be reproduced. The forms of societal differentiation therefore differ depending on what distinctions are imposed on observations to maintain their connectivity as operations.

As I have repeatedly stressed, the societal system can use communications only as intrasystemic operations, and cannot communicate with the extrasocietal environment. But this does not apply for *intra*societal relations shaped by differentiation. There are accordingly communications that cross intrasystemic boundaries. In the course of societal evolution, this leads to a growing need for organization. For a system can communicate with its environment only as organization, that is to say, only in the form of representation of its own unity.[25] This disposition to form organizations continues under the conditions of functional differentiation within functional systems, for example, for firms placing products on the market or having to procure needed resources on the market; or for all sorts of groupings in society that, once the state has been organized, seek to defend their interests vis-à-vis the latter. As on relations between society and interaction,[26] the evolution of societal forms of differentiation[27] hence has a long-term, virtually irreversible impact on relations between society and organization. This is the point at which classical sociologists (Robert Michels, Max Weber) had identified "bureaucracy" as a condition of modern societal structure.

Finally, it should be remembered that the theory of system differentiation I have outlined and will be elaborating in what follows deals with communications and *not with actions*. Whoever observes actions will typically be able to attribute them to a number of systems, not least because the actor himself functions physically and mentally as the point of attribution and because an action can, depending on motives and effects, participate in several functional systems. Whoever takes action as their point of departure will therefore have difficulty understanding the theory of system differentiation at all, and, like Richard Münch, see only "interpenetrations."[28] Only if we switch from action to communications does it become necessary to define the elementary entities of system formation recursively with reference to other operations of the same system. An action theoretician can be satisfied to establish an intention, a "meant meaning" of action.