
SCALE-MAKING

Comparison and Perspective as Ideological Projects

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Scenes of social life have innumerable qualities that can be measured. Matters of size, extent, encompassment, and degrees of interconnectedness have all been called “scale.” But scalar visions are not ready-made platforms for action. Rather, scaling is a relational practice that relies on situated *comparisons* among events, persons, and activities. The results of comparison enable and justify action and institutional arrangements. My goal is to ask: How are social scales assembled (not always intentionally); how are they defended and challenged? In short, how do people *do* scale?

To consider these questions, in this chapter I approach scale-making and scale-using as projects accomplished through semiotic processes. Also, I call these processes *ideological* in order to draw attention to the fact that frameworks of understanding constrain which aspects of social life deserve attention, which merit comparison with what, and how they are to be measured. Like any ideological project, scaling implies positioning and, hence, point of view: a perspective from which scales (modes of comparison) are constructed and from which aspects of the world are evaluated with respect to them. The focus on semiotic processes is crucial, because there is no single way of comparing. Instead, there are various models for doing comparison that differ in their logics and effects. Such models—used by observers as well as participants—are semiotic techniques

that order phenomena with respect to each other. Thus, not only are there many qualities by which phenomena may be compared and scaled, but there are also different models by which this can be done. When invoked in real-time interaction, models for scaling contextualize experience, imaginatively placing the phenomena of experience in wider (and narrower) relational fields.²

The use of scales is a socially positioned activity that is also interactionally situated. Yet models of comparison—indispensable to scaling—differ strikingly in their presumptions about situatedness and perspective. Some create a single point of view from which to compare phenomena. They posit their own gaze as a “view from nowhere,” as though the social interests and purposes for which phenomena are compared make no difference. Good examples of this are standard metrics and classificatory grids, which I discuss below. Both of these models are familiar and very widely distributed in the world. They are deeply embedded in routine activities, so that for many people their invocation no longer seems like measurement at all. They seem merely to signal the inherent, undeniable properties of the phenomena at issue. Such models therefore seem “a-perspectival,” just as their authorizing ideology claims them to be. There are other models of comparison, however, that posit multiple points of view for characterizing and comparing phenomena.

Fractal recursivity is one such model that incorporates points of view. It is a way of bundling qualities into contrast sets and using them to characterize phenomena. As a semiotic process, it is best characterized as repeated application, by a positioned observer, of what is considered by participants the “same” qualitative distinction at many levels of inclusiveness, creating (roughly) self-similar categories of contrast. It is appropriately called *recursive* because the same distinction is applied again and again to a set of phenomena, creating subcategories and supercategories. It is called *fractal* because each distinction repeats a pattern within itself, as is the case with fractals in geometry. Irvine and I (Gal and Irvine 1995; Irvine and Gal 2000) have discussed this process as a semiotics of differentiation. Here I show how it operates as comparison and thus as a scaling technique: It creates, by analogy, more and less encompassing comparisons, where the degree of encompassment depends on the positioning of the evaluator. It accomplishes scaling in a different way than the more familiar a-perspectival models and therefore unsettles or outright challenges them.

Ideological agendas determine which of several possible models takes precedence in a situation and, thus, whether a model’s perspective is acknowledged or not. Perspectival comparison and a-perspectival comparison can be taken up separately by those engaged in scaling projects. But they can also be made relevant simultaneously. Indeed, important scalar effects are achieved when models with disparate claims about perspective are juxtaposed: The social effects of perspectival models undermine models claiming to simply measure the way the world is. Conversely, perspectival models are themselves blocked by firmly institutionalized

models purporting to be a-perspectival. Social struggles around alternative models are consequential because, as I will show, action based on models opens the way for the institutionalization of projects and the creation of real-time linkages among activities.

In what follows, I discuss in more detail the role of models in scaling and explicate the logic of fractal recursivity with examples from my fieldwork in Hungary. Examples are necessary to make clear the way this semiotic process operates. But like the practice of scaling itself, fractal recursivity is not specific to any world region or social group. It is a general process that organizes the specific ideological principles evident in particular ethnographic sites as it clashes with other models. Accordingly, I analyze particular interactional scenes that show how models claiming to be a-perspectival are contested by social actors through fractal logic. There are examples of (a) standardized (a-perspectival) metrics undermined with fractal recursivity, (b) fractal recursivity *blocked* by (a-perspectival) classificatory grids, and (c) extensions in participants' projects—increases in their scale—that result when fractal contrasts proposed in one situation are taken up in other situations and set into new relational fields. These ethnographic materials exemplify the role of the two kinds of models and their logics of comparison in scaling as a social practice.

The examples also underscore the centrality of communicative processes: Models are invoked and perspective (or its erasure) is achieved through situated talk or text. Thus, linguistic or broadly communicative practices of some kind always contribute to scaling. They allow us to see *how* participants “do” scale in different ways, how they invoke, switch, or collapse scalar models and sometimes try to contest them. Moreover, models that enable participants to compare and scale phenomena are not ephemeral, as talk is sometimes imagined to be. They are powerful semiotic tools in part because they are often embedded in sociolegal norms and routines. When institutionalized in this way, they can be used to defend existing social arrangements or to conceptualize and establish new ones. To illustrate this, I consider how one project, proposed in a powerful bureaucratic site, used mass communication and regulatory law to put into place a fractal model that undermined the taxonomy of the Cold War and reorganized a vast array of economic relationships.

TECHNIQUES OF COMPARISON: MODELS AND MEASURES

In semiotic terms, models—whether they are mappings, scenarios, or conceptual types—are diagrammatic icons that represent the relations among the parts of something by analogous relations in their own parts (Peirce 1955, 105). They have no *necessary* scale. Like maps, which can have diverse proportions with

respect to what they represent, models defy commonsense differences of scale: A skyscraper can be a Peircean “sign,” and so can a pointing finger or a thunderstorm; “musical chairs” has a relational logic as characteristic of international capital markets as of a children’s game (Schelling 1978, 50). A model of some kind is indispensable for guiding comparisons. So is the process of making the model relevant in a situation, thereby creating an indexical relationship between the model and aspects of the social world in which it is invoked.³ It is the combination of model-plus-situated-invocation that constructs comparison and thus the imagination of scale.

A *New York Times* article by Paul Krugman (2013) about competition among IT firms provides an example. He explicated Microsoft’s failure to keep up with the ever-new iEverythings of Apple by invoking Ibn-Khaldūn’s fourteenth-century analysis of North African empires. Rendered complacent by their success, agricultural elites (read: Microsoft) succumb to courageous desert tribesmen (read: Apple), who sweep in, conquer, and establish dynasties that eventually also become complacent and weak. Krugman’s analogy works as (re)scaling. Ignoring many contrasting features of the two cases (differences in spatial extent, firepower, say, or organization), he instead identifies a few key relationships as the same in both. Using the gnomic present tense, Krugman frames the similarities as instances of a type of situation, a model. With these similarities, the juxtaposition *makes* unexpected, new scalar relations by invoking and then jumping across presumed, conventional scales: the temporal scale that would separate the fourteenth century and the present is collapsed, as is the supposed difference, on a presumed civilizational scalar dimension, between nomadic empires and capitalist firms. Analogies are often (re)scaling devices, as we will see with fractal recursivity. Krugman does all this in the situated textual event of a newspaper article, where the invocation of empire as a parallel to corporate competition is a political act in discussions of capitalism. When taken up by readers, the article contributed to multiple ideological projects: displaying the writer as well-read in history; pressing a point about the weaknesses of monopolies; even, perhaps, proposing economic policy.

In Krugman’s article, the two scenarios were both taken to be instances/tokens of the same constructed type. The relation between types and tokens can itself be interpreted as a shift in scale, with types ideologized as “larger,” in the sense of “more general,” or as encompassing the instantiations. Even if not itself seen as a difference in scale, however, the token/type relation is important in comparisons. Because one focus of this chapter is on the way models are invoked in actual interaction, it is important to emphasize the work it takes to make a particular real-time event into an instance of some model. How a model is invoked, what counts as an instantiation, and what must be ignored (erased) in order to fit an instance into the invoked model are matters that *produce* the token/type relation, rather than being dependent on it (Goodman 1972). In other words, Krugman’s

story performatively created the specific similarities and scalarity it posited. In this way, models—like maps and other semiotic “infrastructures”—can be transformative. As many have argued, they alter social realities. When given political backing, they become models *for* ways of reorganizing relations, in order to match representations. Models of comparison—as in the scale-making I discuss below—are no exception.⁴

Krugman’s scenario does not hide its perspective or its momentary and polemical point. I focus now on models that, in contrast, claim to be a-perspectival and are long-lasting, in order to compare them later with the perspectival technique of fractal recursivity. Classificatory grids deny perspective in a particular sense. They compare items by placing them in categories of a single domain. Some categories include other categories, encompassing or “standing over” them, so that the more encompassing ones are interpretable (in an ideological frame) as of greater scale. In state administration, for instance, counties are usually mutually exclusive, dividing up a province (in space) and reporting organizationally to provincial offices. In such a setup, the category of province is understood to incorporate county, spatially and administratively, in this way establishing a difference of scale. Taxonomies of language operate in a parallel way. A world of distinguishable, mutually exclusive kinds is presumed. Linguistic practices are assigned to one or another language. The language itself is assigned to mutually exclusive categories: for instance, it cannot be both Finno-Ugric and Indo-European. Such categorizations are based on a particular language ideology.⁵ To be sure, there is often room in such systems for items that do not clearly belong in any rubric, thereby revealing that the model is necessarily “leaky” in practice (Garfinkel 1967). Nevertheless, the model fixes perspective: One might refuse to categorize, or demand more or different categories. But when users take up the model’s perspective, the perspective also “takes” them, disallowing other frames, constraining their point of view on items to be classified (Bowker and Star 1999).

Another model of comparison that claims or presumes to be a-perspectival is that of standardized metrics: A magnitude of a property is used as a conventional unit for measurement of that property, in any situation. Any value of the property can be expressed as a simple multiple of the unit: meters as a metric of length, for example, where length is a dimension. Anything to be measured is first compared to the standard unit, and is then scalable (judged as more/less) with respect to other items also compared to the standard unit and thus measured in the same way. Prototypes of the standard unit are safeguarded for stability. In a similar way, ideologies of standard language rely on prototypes, safeguarded in dictionaries and grammars, as measures of the relative value—on a dimension of correctness—of linguistic usages.

In standard models—linguistic or other—there is often conflict about what can be measured at all, with what units (Espeland and Stevens 1998). But once in place,

such systems are ideologized as a view from nowhere, an objective way of placing items on the predefined scale. Like the world of standardized languages, such systems are demonstrably the product of political conflict, bureaucratic imposition, and capitalist economy. Often they represent a state's-eye view (Kula 1986; Porter 1995; Scott 1998). Yet the prototypes are justified as natural forms, unaffected by human activities. For example, the authorizing narrative of the metric system, since its invention in the eighteenth century, has presented it as immune to social perspective (Alder 1995). In 1900, the physicist Max Planck declared, "With the help of fundamental constants we have the ability to establish units of length, time, mass and temperature which necessarily retain their significance for all cultures, even unearthly and non-human ones." By this logic, standard metrics and the scales they establish are ideologically positioned as free of human interests, part of the "structure of the world," merely displaying the inherent, real properties and dimensions of the phenomena compared (Planck cited in Crease 2011, 266).

CONTESTING SCALE: DIFFERENT LOGICS COMBINED

Fractal recursivity shares some features with both of these models, but contrasts with them in incorporating a difference of perspective within the model itself. Like those discussed earlier, it is an abstract scenario of comparison; it must be invoked in situated action. Unlike them, it is an organization of properties, as contrast sets, in an imagined quality space. Instead of creating a single point of view, it posits different perspectives on whatever phenomena are characterized, differentiated, and thus organized by those contrasting qualities. In order to understand how participants use fractal logics to contest and try to undermine taxonomic grids and standard measures, it is important to see how fractal recursivity itself is ideologically constructed. The illustrations are drawn from my fieldwork in Bóly, a town in southern Hungary inhabited in part by German-Hungarian bilinguals, who are descendants of eighteenth-century migrants from German lands.⁶

Constructing fractal recursivity. A first ideological move creates differentiation by proposing clusters of opposed and complementary qualities that are co-constitutive. One set of qualities is seen as what the other is not. Such axes of differentiation are contingent and open-ended, arising out of the historical experience of the group that presupposes them, and changing accordingly. Ideological frames define what practices display instantiations of the abstract qualities. The clusters of opposed qualities are summarized and labeled. In some cases these are political categories (e.g., public/private, populist/cosmopolitan; Gal 2002, 1991). More often, such *anchor categories* are person-types that are deemed the ideal locus of the contrasts.

In Bóly, these were "farmer" and "artisan," the pillars of social organization between about 1880 and 1950. These person-types were institutionalized in

voluntary associations of artisans on the one hand and farmers on the other that functioned as reading circles, adult education, and centers of entertainment. Virtually all aspects of social life revolved around these formal, church-supported associations; artisans and farmers even held the office of mayor in alternating terms. The distinction remained important to townspeople throughout the twentieth century, despite the loss of farms and workshops to collectivization in the post-World War II communist period. Artisans were understood to display and value a cluster of qualities: elaboration, novelty, and worldliness in their sartorial, culinary, architectural and affective styles. They were expected to value skill in communication and familiarity with the world outside the town, acquired through apprenticeships in cities far and near. By contrast, farmers were typified as restrained, plain, austere, and valuing traditions and land; they were considered *echt*, authentic. Farmers, even rich ones, were imagined to eat the same, familiar menu every day, while (some) artisans famously varied their food and even collected recipes.⁷

Ways of speaking are usually privileged loci for the display of contrasting qualities in such models: the differences between linguistic forms are heard as embodiments of the qualitative contrasts. In Bóly, every German-speaker spoke Hungarian as well. However, two mutually intelligible registers of German—known as “artisan language” and “farmer language”—were emblematic of the qualitative differences posited between person-types. The artisan register was heard as elaborate and polished, in contrast to the farmer register, which was heard as austere and old. Artisans were thought to know Hungarian better and to borrow from it, in keeping with their emphasis on travel, variety, and communicative skills. Use of the two German registers enacted the stereotypes of farmer and artisan. In the heyday of the system—between the World Wars—the voluntary societies disciplined and reproduced these values and their distinct enactments. The farmer perspective valued austerity and criticized elaborate display; the typified artisan view was the opposite. Note that the qualities that distinguished the artisan figure from that of the farmer were *made* contrastive through ideological work; they would not necessarily contrast or cluster in other sociocultural formations. The qualities were seen as co-constitutive, the people types as codependent. Each view saw itself as best; neither accepted hierarchy between them. Importantly, both recognized the other as necessary because they contrastively defined each other.

A second ideological move projects the axis of differentiation to organize—by analogy—less-encompassing contrasts and more-encompassing ones. The recursions are relative judgments, creating categories of objects that are self-similar and nested. This is what makes the distinction fractal: each contrast repeats a distinction within itself, as geometric fractals do. Among any phenomena compared along an axis and found to contrast—say, house styles, person-types, and linguistic registers deemed either elaborate or authentic—those judged authentic could

be compared to each other and a further distinction made among them, using the same criteria. This would create two sets or sides again, both encompassed as authentic from one comparative perspective, yet differentiated as “authentic versus elaborate” from a less encompassing perspective—that is, when comparing them only to each other. This process could be applied again and again, hence the term *recursive*. The fractal comparisons create scalar differences of encompassment. How any item is judged depends on the perspective that defines what it is contrasted to. The same practices, things, and people can count as instantiating one side of the axis when judged from one comparative perspective, and embodying the other side when judged from another. According to stereotype, farmers speaking to farmers use farmer language. But by using (some features of) the artisan register—as quotation, parody, or other voicing effects—farmers enacted recursions: a farmer could “be” the artisan among farmers. A farmer criticizing other farmers’ practices as “elaborate” would be creating recursions, too; and so would artisans, if deriding each other as “authentic.”

Finally, in a third ideological move, these analogical projections of the contrasts—both less and more encompassing—are framed as “the same” as the anchor contrast. The inevitable differences among the contrast sets are ignored, if only for the moment.

To emphasize the perspectival features of fractal recursivity, it is important to specify the way it differs from the two a-perspectival models I have discussed. First, it might appear that repeated contrasts simply construct taxonomies of categories, one set included in another. But this is not so: in taxonomies there is no relationship presumed among the categories at any one level. In a fractal system, a co-constitutive qualitative contrast among the superordinate categories is *repeated* in the relationship among subordinate categories. The two sets are analogous—they do display the same *contrast* of qualities—and in that sense are the same. Achieving this effect might well require ignoring many features. Second, it might appear that one can turn qualitative contrasts into gradients or continua. If so, fractal recursions would be merely a cumbersome way to represent an existing linear order. It is indeed sometimes possible to convert qualitative contrasts into linear degrees of difference. But note that such linearity is itself an ideological achievement: constructed not merely discovered. Such conversions (from contrast to continuum, from continuum to units) are practical moves with social consequences. We should ask: what projects do they serve; for whom; and how are they justified? Such transformations deserve analytical attention.⁸

Fractals and standard metrics, in practice. Whichever model we consider—taxonomies, standards, fractal recursions—it creates scalar relations when brought to bear in interactional scenes, while linking the comparison to positioned purposes. The situated communicative means by which this is done—with narratives, transpositions, quotations, and voicings—are fundamental in any study of

interaction. Here, such devices are not considered for their own sakes but to show how participants use them to undermine the taken-for-granted, default (standard) scalar relations among the things they discuss. In this case, the comparison is between Bóly, which is the hometown of the speakers, and another settlement. By conventional (standard) metrics of population size and territorial extent, the town of Pécs, some kilometers north of Bóly, is decidedly bigger in scale: its population and territorial extent are many times larger than Bóly's. Pécs is also the administrative center to which Bóly reports, and one in which the national language (Hungarian), rather than minority German, is spoken. The names of the two towns are enough to invoke common knowledge of this undeniable scalar relation. Yet as the following segment shows, the natives of Bóly have another way of scaling that asserts their own relative significance in a quiet but enduring rivalry with Pécs (Gal 1994).

During a 1997 sojourn in Bóly, I was visiting an elderly husband and wife, both of them retired but from families that had been rich farmers before the Second World War. They were telling me (at this point in Hungarian) about a letter they had just received from a childhood friend, now living in Germany, whose family had been artisans, bakers. The letter writer ("he, Ferike" in the transcript) had been expelled from Hungary to West Germany after the Second World War, as were many of those who claimed German mother tongue.⁹ The letter brought up the past and the artisan/farmer contrast. Mention of the letter was in part a response to what the couple knew about me: that I was a researcher from outside Hungary, a traveler, and a speaker of English, and was interested in learning about Bóly's history. The letter highlighted the couple's own extra-Hungary connections and their expertise in local history, while providing a topic through which we three could encounter each other. As it turned out, this short exchange relied on shifting perspectives to compare Bóly and Pécs in ways that undermined the purportedly a-perspectival measures of population, territory, and administrative hierarchy. The transcript starts as the letter writer is introduced.

The segment invokes the farmer/artisan distinction through labels—farmer bread and baker (artisan) bread. The husband and wife are not enacting the distinction, they are narrating someone else's past enactment. Presupposing that there is such a thing as farmers' bread (homemade) and bakers' bread (shop made), they typify a transaction that clinches the social complementarity between the two and their semiotic co-constitution: "The farmers liked the bakers' bread, and he [artisan] liked the farmers.'" The husband and wife cooperate in the juxtaposition of two brief vignettes. That juxtaposition creates, out of the farmer/artisan contrast, a more encompassing one by analogy. One scene takes place in Bóly in the distant past, the second (marked \diamond) in Pécs in the more recent past.

Example 1. Transcript, Bóly, 1997, conversation with farmer couple; orthography standardized (97:2B:29:50):

Hu: His father was a baker [i.e., artisan], and then he says he always came and traded with the farmer kids, for the farmer bread [homemade], they—

Wi: Baker bread.

Hu: Baker bread [i.e., shop made]. The farmers liked the bakers' bread, and he liked the farmers' bread. He said, "Remember how we always traded, the bread, spread with chicken fat?"

Wi: And when Tibi [the couple's son] was a student, he went to Pécs
 ◇ everyday, I had to prepare bread with ham. A little butter on it thinly spread and then pieces of ham. Every day he traded that ham and bread for years, for—what do I know—for rolls or pretzels. But he never told us till later.

Hu: He never ate it; they always grabbed it. They came, the city folks, and begged it away from him and gave him something else that he did not have. Ferike [childhood friend] was like that: he always says, We traded.

Hu: *Az apja pék volt. és akkor mondja, mindig jött és cserélt a parasztyerekekkel, paraszt kenyérért ők meg a—*

Wi: *Péki kenyeret.*

Hu: *Péki kenyeret. A parasztok szerették a péknek a kenyerét ő meg a parasztok kenyerét szerette. Azt mondta, emlékszel hogy cseréltünk mindig? a zsíros kenyeret.*

Wi: *És mikor a Tibi volt diák, az bejárt Pécsre minden nap. Sonkás ◇ kenyeret kellett készíteni. Kis vaját rá vékonyan, és sonka darabokat. Minden nap elcserélte évekig azt a sonkás kenyeret, nem tudom én zsemléér, vagy kifliér. De ezt nem mondta meg csak később.*

Hu: *Soha nem ette meg, de mindig harapták. Jöttek a városiak, elkunyeráltak tőle, és adtak mást, ugye ami neki nem volt. A Ferike ilyen volt, mindig mondja hogy cseréltünk.*

The two vignettes are multiply linked to each other by the motif of bread exchange and by a series of parallelisms: The person categories in the two scenes are different, but the *contrast* is equated through juxtaposition: (farmer versus artisan in Bóly) = (Bóly student versus Pécs students in Pécs). The husband explicitly equates his childhood friend with the Pécs students and "city folks," noting, "Ferike was like that." In the qualities of bread too, the *contrast* is equated: (farmer bread versus baker bread) = (homemade-bread-with-ham versus pretzels, rolls). All these contrasts display the same farmer/artisan qualities: authentic, old fashioned (i.e., homemade) versus elaborate.

There is also a shift in the referents of deictics, through which the narrator takes up different perspectives. In the first vignette the husband, positioned as narrative *origo*, says the artisan boy “came” to the farmer kids, construing artisan kids as distal to proximate farmer kids. Later, the artisan friend is quoted as saying “we,” creating a unified, first-person-plural Bóly of artisans-and-farmers. This is significant, because in the second vignette, the narrator takes up his son’s position, making that the *origo*, now hearable as Bóly-in-Pécs, a figure to which “came” the “city folks.” Artisans are distal to farmers in Bóly; and in a parallel way, all of Pécs is distal to a figure from Bóly, in Pécs. These transpositions and parallelisms constructed momentary fractal analogies. A distinction along the axis of differentiation anchored by the artisan/farmer categories was projected to distinguish Bóly from Pécs, by analogy. Viewed from Bóly, Bóly counted as farmer—that is, authentic/traditional/austere, when compared to Pécs.

Recall that hierarchy between the two people-types was denied. Hence, Bóly (farmer) was being claimed as the *equal* of Pécs (artisan), contradicting standard metrics and administrative hierarchies. The analogy rescaled the two towns and served the ideological project of rivalry I have mentioned. Bóly’s leading families had a strong sense—some have called it arrogance—of their town’s superiority to Pécs, despite Pécs’s size. This scalar vision made imaginable, in Bóly, a variety of actions for linking the two towns. When seen as artisan-like, people in Pécs could be recognized as suited to reciprocity (as in the vignettes). Regional planning drew on such images. Alternatively, some in Bóly opposed political alignment with Pécs, justifying their position by dismissing Pécs as a bunch of artisans, with the predictable stereotypes of spending and ornamenting.

Taxonomic grids and fractals, in practice. Since classificatory grids/taxonomies are a-perspectival scales, they too collide with fractal models. Recall that a fractal model enables changes in perspective so that for any phenomenon to be judged—speech registers, person-types, events, activities, objects—its position on an axis of differentiation depends on what it is compared to. Speakers can switch perspectives—and thus rescale—while staying within the fractal model, even within a single event. A speaker can take the position of farmer with respect to one interlocutor, but with respect to another claim an artisan position. Such fractal comparisons are undermined by any move that *permanently* allocates people-types, objects, practices, events to one or the other side of what participants construct as a distinction. (An imaginary example would be a regulation stating that those who ate potatoes every day, or spoke farmers’ German at home, must always identify as farmers and never adopt an artisan voice.) If enforced by law, this obligates participants to take up (only) the perspective of those who force the allocation. It creates what I call a *blockage* of recursivity. The dilemma of an elderly woman (Terus) from an artisan family in Bóly provides an example. Her narratives show how she positioned herself in relation to ever more encompassing categories of identity.

In 1990, she was interviewed, in German, by a younger woman (Mari), who was also a German-Hungarian bilingual but from another region of Hungary. The elder woman was giving examples of artisan language and farmer language, enacting an artisan persona by displaying her expertise in communication. The transcript starts when she suddenly launches into the story of a time when she lived in a largely Hungarian-speaking village. There, she said, she spoke German with those few farmer women who, like her, were German-Hungarian bilinguals. In that village, she was ignoring the farmer/artisan distinction so important in Bóly. Emphasizing that she “likes the German word,” and usually watches German TV (via satellite), she segued to the story of a recent trip to Germany, where her excursion group met a German woman (i.e., not from Hungary) who recited in Hungarian a poem and the Hungarian national anthem for the visitors. Terus, the interviewee, conveyed a strongly ambivalent emotional reaction to this performance: “I said then, I don’t know what, what this is in me, I am still, after all, Hungarian, the Hungarian anthem, it so moves me and even so I like German. I don’t understand this in myself, what this is.” And she began to cry.

Example 2. Transcript, Bóly 1990, interview with artisan woman (boldface section Hungarian, otherwise German; orthography standardized for readability; M90:3A9:50):

Terus: . . . I lived in a village [once] where there were only Hungarians, there were just one or two schwäbische [German-Hungarian] women there. When we met in the street we always spoke German because I like the German word. Now I have a TV and a satellite dish and I mostly watch German. Closer . . . I don’t know, we were out in Germany two years ago. . . . There we, she, a, she was a real Imperial German, she could speak such beautiful Hungarian, though it’s so hard. . . . She knew “**Night has come, night has come, to each in repose**”; she recites it so **beautifully**. That’s a Hungarian—

Mari: Poet.

Terus: Poet, whom we love very much; he has a beautiful poem; she did this so, we were so surprised, that she learned such beautiful Hungarian and such a difficult [language] still. . . . And there they, they all liked our **National Anthem** and **the Pledge**. And we sang it there. And they sang all of it along with us; and I, I said then I don’t know what, what this is in me; I am still, after all Hungarian, the Anthem and Pledge, presses [my heart]. . . . And even so, I like German. I don’t understand this in myself, what this is.

*Terus: . . . Ich war auf solchen Dorf gelebt nur Ungarn warn nur eins-zwei schwäbische Frau warn dort. Wenn wir uns getroffen haben wir haben immer nur deutsch weil ich habe gern das deutsch Wort. Jetzt hab ich die Fernseh die Parabola und ich schaue meistens nur deutsch. Näher . . . ich weisst nicht, wir waren vor zwei Jahren in Deutschland d'raus . . . dort haben wir die, eine, die war aber eine Reichsdeutsche, die kann so schön ungarisch sprechen. Sie kann "**Este van este van ki ki nyugalomba gyönyörűen elszavalja**. Des is ein ungarische—*

Mari: Dichter

*Terus: Dichter, den haben wir lieb, der hat schöne Dichtung, sie hat das ganz so, wir waren so überrascht, dass sie so schön ungarisch gelernt hat und so ein schweres, doch . . . und dort haben se, sie haben alle gern den unseren **Himnusz** und a **Szózat**. Und das haben wir dort gesungen. Und sie hat, kann auch alles mitgesungen und ich, hab ich damals gesagt ich weiss nicht was das ist in mir, ich, doch ein Ungar, der **Himnusz** und **Szózat** so drückt. . . . Und doch habe ich das deutsche [gern]. Das kann ich in mir nicht so verstehen was das ist.*

In the space of a few moments, the elderly woman presented herself as differently situated in a series of linked comparisons, each from a different perspective, iterating the “same” contrasting clusters of qualities, ones summarizable as farmer versus artisan, qualitatively simple versus elaborate. The linguistic forms that invoked the clusters shifted from one comparative frame to another. In the narrating event, she enacted an artisan persona, implicitly contrasted with the farmer type. She then presented two comparisons, distinguished by setting. In the Hungarian village, she aligned via linguistic practice with the few German-bilingual farmers, enacting the “plain, farmer” in contrast to Hungarians. This stereotype needed no explication for the young interviewer; it was the conventional view in Hungary. The next scene was international. When Terus marveled at the German performer’s feat of reciting in Hungarian, and called Hungarian “difficult,” she was evaluating it as elaborate, with respect to German. Once again, the same contrasting qualities were invoked. In this final scene, the interviewee inhabited neither the artisan role (versus farmer) as in the first scene, nor German-speaker (versus Hungarians), as in the second. Instead, she was the Hungarian with respect to the Germans. This was signaled by deictics (“our” poet, “our” anthem), by a switch to Hungarian in praising the performer, and by her sobs and her report of being emotionally moved. By juxtaposing the three comparisons, she equated the analogies, yet placed herself differently in each one.

This evidently made sense to her. And indeed, in a fractal world, shifts in perspective on oneself are expected.

Why, then, was she so distressed by her own reaction to the final scene? We can understand this by recalling that fractal shifts are contradicted—blocked—by any system that forces participants to take up fixed, exclusionary categories. European linguistic nationalism of the mid-twentieth century was famous for doing so. The contrast of German versus Hungarian became far more significant than the qualitative contrast between artisan language and farmer language that crosscut nationality. Moreover, language was made a sign of national loyalty: ideally, one to a customer. In terms of this linguistic nationalism, our elderly bilingual speaker could be neither properly Hungarian nor German. In this interaction, she was able to confide her distressed reaction to an interviewer who was similarly placed. She revealed a dismayed emotional response to the institutional and ideological pressure to choose one language, as well as her deep puzzlement that she felt what this ideology disallowed: a strong attachment to both.¹⁰

The process of blockage is widespread. It is evident in Franz Fanon's (1952) famous, enraged description of the way language operated in the colonial situation he experienced: For him, the French/Creole contrast indexed Frenchmen versus Antilleans. Speaking the Frenchman's version of French was the promised ticket to acceptance as French for a black man from the Antilles. Yet no matter how French his speech, that repositioning was denied. In Paris, Fanon noted bitterly, he would be treated as inferior on the basis of skin color: blockage by racial taxonomy.

Extensions and connections across events. The examples so far have shown how people in a *single event* invoke models that contextualize their experience. Using the same qualitative contrasts, they *imaginatively* and analogically placed themselves into wider (and narrower) relational fields: not only farmer/artisan but also Bóly/Pécs or German/Hungarian. The differences of scale we observed were questions of relative encompassment of the categories used. The invocation of the model of qualitative contrasts can also be tracked *across* encounters, where differences of scale are questions of relative spatial or social "spread," the increased number and dispersion of real-time instantiations of the contrasts. Participants not only project analogies of the artisan/farmer model in narratives, but they also use the model to interpret and organize real-time social scenes that do not involve farmers and artisans. The familiar contrasts and categories are extended—by analogy—to novel circumstances; or new scenes are socially linked to scenes of another place or time as (partial) equivalences. This then looks like a "circulation" of the model of qualitative contrasts. When taken up by people outside of Bóly, the model can create social linkages based on perceived similarity among participants and between scenes that are—by other measures—socially, spatially, and/or institutionally distant from each other. Like encompassment, spread and linkage are questions of relative scale. The handling of perspective remains important.

In models that deny or neglect perspective, the perceived fixity of categories across events is assumed. When observers and participants use a-perspectival models to gauge the distribution of a social practice, they presume the practice itself to be fixed. They ask: Is the practice restricted to one locale? Has “it” spread (circulated) to a larger scale of distribution? With a perspectival model, by contrast, one attends to questions of uptake: from what perspective is the particular practice construed as the same as some other instance of practice and therefore interpretable as a *reiteration* (Irvine 1996; Agha and Wortham 2005)? Fractal distinctions add complexity to this question because the phenomena taken up are not practices but qualitative contrasts: instances that are perceived to display opposed qualitative categories—whether the instances are practices, person-types, or objects. Co-constitutive contrasts of qualities enacted by speakers in one scene are reframed—quoted, narrated, cited, voiced—and projected onto other speakers and practices in other events. The clusters of opposed qualities that define a fractal distinction are somewhat transformed through such recontextualizations. Nevertheless, if the uptake perceives the “same difference” in people-types, objects, or practices, then a linkage is established among scenes that are otherwise socially, spatially, or temporally distant, even unrelated.

A glimpse of one moment in this process is evident in example no. 1: The husband and wife were telling stories about the farmer/artisan distinction. Whether or not their friend actually exchanged bread with farmer children (or ever said he did), the husband and wife narrated *about* bread exchanges. Yet the husband as narrator also took up the farmer role by enacting the farmer-*origo* in the storytelling event. The farmer/artisan contrast thus became relevant to characterizing others in the storytelling event around the kitchen table. Participants would be compared to each other with respect to the farmer/artisan axis. It seemed to me that I was cast as the farmer-narrator’s opposite: the artisan role. Of course, I was no artisan. But the couple commented on my travels and life in distant places, my speech, and on my elaborate sartorial practices (compared to theirs). These stereotypically artisan qualities could be “found” in my actions and demeanor. And, conveniently, my appreciative consumption of their homemade bread during that storytelling event could be seen, from their perspective (and no doubt with wry amusement), as an enactment of the very transaction that, in the stories, typified the farmer/artisan relationship. If this is an accurate assessment, then a familiar distinction was extended by analogy to make sense of a relatively unusual event, the presence of an American visitor.

The projection of the same contrasts can be tracked across more events, to see how it produces further scalar effects, as connections, as linkages. Stories comparing Pécs and Bóly were told not only to me but also to a Hungarian ethnographer in the late 1980s. Publishing her oral histories of Bóly in a Hungarian social science journal, the ethnographer characterized Bóly in the interwar years as a highly

successful example of rural capitalism. She noted that a “raw communist dictatorship” had tried to destroy what remained of rural capitalism after the Second World War. In the ethnographer’s view the farmer/artisan distinction itself had been key to the town’s pre-war economic success, especially the town’s “bourgeois values of hard-work and austerity[,] . . . [its] self-reliance,” and ideals of “community autonomy” (Kovács 1990, 76, 34). The farmers, she wrote, were typified as frugal, restrained, and industrious, and she added that all of Bóly shared those qualities, when compared to Hungarian towns of the time.

The article entered Hungarian academic discussions amid heated debates about capitalism and state socialism in the late 1980s. These discussions criticized postwar policies. The arguments were driven in part by a market-oriented, liberal movement of intellectuals in Budapest who were organizing to challenge the agricultural policies of the state socialist government. In her article, the ethnographer described the farmer/artisan distinction in the same terms used by the elderly couple I interviewed. The ethnographer did not take up either the farmer or artisan persona. But she did align herself with Bóly by representing the town in admiring terms, ones widely accepted by her readers in Bóly. However, when read in Budapest scholarly circles, the qualities the ethnographer named and valorized were dramatically recontextualized: Rather than contrasts of plain/elaborate that distinguished farmers/artisans or German towns/Hungarian ones, the article was read as a defense of *community autonomy*, as opposed to centralized planning; *self-reliance*, as opposed to collectivization; *hard work* as opposed to the famously lax labor ethic of “really existing socialism.” For readers in Bóly, the italicized terms were their favored forms of self-characterization and fit well with their farmer stereotype. For Budapest intellectuals, the italicized qualities were characteristic liberal values, and these intellectuals invoked, as contrasts, the qualities they attributed to communism. As a result, the qualitative contrasts of Bóly were extended and linked to Budapest’s liberal political distinctions.

Were they the same contrasts? Those in Bóly and those in Budapest all found the contrasts recognizable and interpretable, each from their own perspective. Perhaps we can say the contrasts were the “same-enough.” Whether she intended it or not, the ethnographer’s descriptions were interpreted in Budapest as *evidence* that capitalism had worked, and could work again, in Hungary. At the same time, the article’s contrasts allowed politically engaged readers in Bóly to recognize themselves in the rhetoric of pro-market reformers in Budapest. As the Cold War ended, leaders in Bóly and liberal activists in Budapest sought each other out, inspired in part by the article. These uptakes had scalar effects of increased interconnection: The liberal group of Budapest intellectuals gained adherents, extending itself from Budapest to a southern town. People in Bóly gained connections in the capital that they had not had before. One might call this “alliance by mutual appropriation.” Increases in connectivity—yielding differences in the scale of their

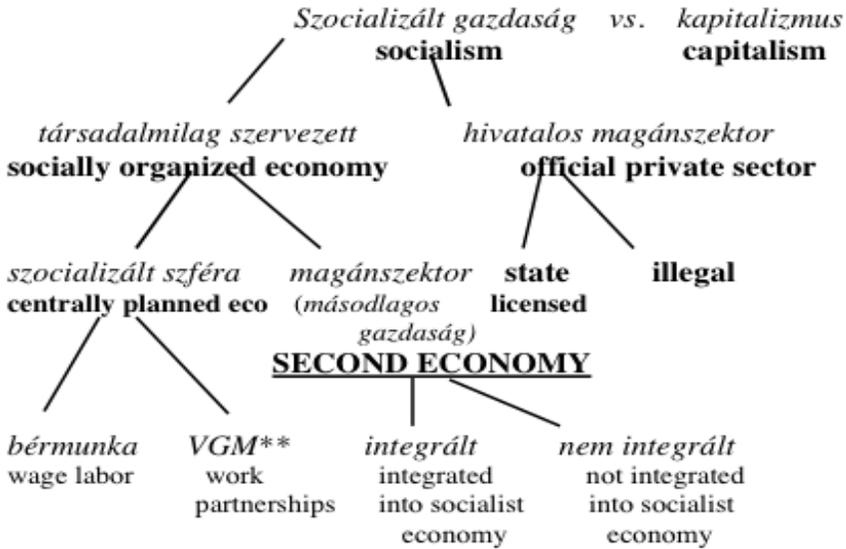
projects—were achieved by two groups of actors as each used the other to advance their own purposes.¹¹

INSTITUTIONALIZATIONS

The alliance between leaders in Bóly and liberals in Budapest did not last long. This was not a strongly institutionalized connection. The models that organize qualitative contrasts are often much more firmly established. Indeed, the farmer/artisan contrast in interwar Bóly was maintained for many decades by the separate voluntary associations for artisans and farmers that I have already mentioned. These voluntary societies policed the qualities considered typical of farmers and artisans. They provided venues for displaying, explaining, and reproducing the differences. But fractal models need not be constructed only in small towns; they can be made and projected from many kinds of sites. The invention and imposition of a fractal model by powerful social actors can introduce organizational change that shifts scales. Leaving Bóly behind, I look at Hungarian economic policy in the 1970s, which provides a striking example.

Recall that in the Cold War of that period, two opposed power blocs faced off against each other, operating on what were declared to be antagonistic political economic principles: capitalist and communist, West and East, the so-called First and Second Worlds. No country could be in both camps at the same time, and each side claimed superiority. Each had its own taxonomy of members: the Soviet Union and the United States were the opposed superpowers each in alliance with other states of ranked sizes and influence.¹² Recent revisionist research rightly argues that this is a vastly oversimplified picture. Nevertheless it is largely the way most scholars and politicians saw the situation at the time. It was a rigid classificatory scheme, reinforced by armed force, bloc-internal discipline, mutual propagandistic derogation (“evil empire,” “capitalist lackey”), and claims that the ways of life and economies of the two blocs were opposed and incompatible.

As managers, Hungarian economists in the 1970s were faced with repeated crises of their Soviet-style, centrally planned economy. A major problem was that, to compensate for the perennial shortages produced by this system, fully three-quarters of the population participated in a network of illegal, black market activities considered incompatible with the logic of the official, centrally planned and redistributive economy, while they also held jobs in that official economy. Indeed, the two jobs often depended on each other: clerks and professionals in government offices and hospitals profited from tips and gifts from petitioners and patients; workers in state factories and agricultural collectives used factory machinery and materials to produce, during the workday, commodities that they sold independently after hours. Economists tracked this illegal, do-it-yourself economy. Its activities supplied the population with otherwise scarce consumer



* note this is not a taxonomy but a recursive application of the same distinction, from different perspectives
 ***Vállalati gazdasági munkaközösség*
 enterprise work partnership

FIGURE 4.1. Fractal recursions in Gábor and Galasi’s argument (based on Gábor and Galasi 1978).

goods and services, contributing to political stability. But the population also evaded state control in this way, so this underground economy was seen by officialdom as a political danger and embarrassment.

As a solution, two young economists (Gábor and Galasi 1978) reconceptualized their economy to subtly transform the bipolar commonsense of the Cold War. They proposed an alternative way of comparing economic activities. They recast the either/or of capitalism/socialism by formulating contrasting, co-constitutive qualities for the two systems and applied the distinction iteratively. I have analyzed it as a fractal scheme (see figure 4.1). Their writings reveal the logic of this reclassification when they justify it in detail. Starting with the Cold War’s classificatory grid—capitalism versus socialism (“communism” was for an ideal future)—they argued that Hungary had reduced capitalism to insignificance through collectivization, so no further consideration of capitalism itself was necessary. Socialism in Hungary still retained a minuscule and stigmatized “official private sector” of small, independent craftsmen and their shops (shoemakers, locksmiths) who operated by state license but were insignificant. All other economic activity comprised the enormous “socially organized economy.”

Yet, Gábor and Galasi argued, the activities within this socially organized economy were already subdivided by the same criteria, since some were “centrally planned” and thus controlled by the state, but others happened outside of planning and were simply tolerated by the state. Urging that these tolerated activities be acknowledged, legalized, and thus perhaps better controlled, they baptized it as the “second economy.” Admitting that activities in the second economy had many of the qualities that distinguish capitalism from socialism—market principles, profit for individuals, lack of central planning—they nevertheless argued that these activities were not *really* capitalist because they were embedded in a socialized economy. Having applied the socialist/capitalist distinction to the whole economy, and then subdivided the socially organized economy by the same principles, they applied the distinction yet again, this time to the activities in the centrally planned economy of state-owned factories and other large state enterprises. For workers in the centrally planned economy, they proposed a new category of work, distinct from ordinary wage work. This would be called wage partnerships and would occur in the same state factories that operated by wage labor, and would be done by the same individuals. Inside such factories, workers would legally form independent firms. As part of these firms, they would do the factory’s work for their own profit, in addition to their regular wages and hours. In effect, the economists proposed creating a second economy for factory workers: an outsourcing to insiders. With some irony, we can call it a whole new kind of “socialist” labor.

From an American perspective, this rescaling justified the legalization of market principles in some parts of the socialist economy. But in their exegesis, the economists never proposed a continuum that would label some jobs or activities as “capitalist,” or “more/less capitalist.” That was ideologically taboo and, by their logic, also simply inaccurate. The fractally recursive argument enabled Gábor and Galasi to show that all jobs remained socialist and should be embraced and controlled by the state, while admitting that—from some perspectives—many had (relatively) unusual qualities. With these arguments, a single factory activity would display socialist qualities when viewed/compared from one perspective, and capitalist ones when judged from another point of view. Summaries of the young economists’ scholarly article were published in popular magazines and later widely discussed in newspapers. Ultimately much of the plan was adopted. People discovered, to their surprise, that they had been participating in the second economy all along! Novels and ethnographies of the time make it plain that different practices—ethics, values, business transactions, even ways of speaking—distinguished the second economy from the rest. And people used the opposed values to position themselves, in everyday interactions, with respect to the qualitative contrasts.

As economists close to the central planning office, Gábor and Galasi were well placed to argue for the acceptance of these changes. Nevertheless, by all accounts,

the decision-making process was a tough bureaucratic struggle (Seleny 1994). Recommendations had to persuade many political factions. As it turned out, hard-liners took up the perspective that compared Hungary with the capitalist world. This retained the communist/capitalist distinction as a bedrock classificatory principle, showing continued orthodoxy. It was presentable and acceptable to the Soviets. Those positioning themselves as reformers, by contrast, interpreted the iterations as a legalization of markets in labor and commodities. This was an innovation they proudly displayed to Western scholars. Perspectival rescalings enabled the acceptance of a substantial economic reorganization.

CONCLUSION

Scaling is a relational procedure that starts with comparison. Models for comparison that differ in the handling of perspective create conflicting scalar effects. Fractal recursivity is analogical; it allows perspectival comparisons. There are certainly other techniques that are based on analogy, or that otherwise incorporate perspective. It is important to explore how they work. With analogical practices, people equate phenomena that, by other measures, are of different “size” or extent, or distinguish those that are otherwise deemed the same scale; they connect as similar (or allied) phenomena that, by a-perspectival measures, are distant and distinct; or they distinguish what would otherwise be equated. Perspectival models can contest models that—positing a single point of view—purport to measure the world simply as it is. Conversely, single-perspective scalings can undermine fractal recursivity.

Ideological frameworks define the significant qualities and dimensions of any social scene and the default model(s) for scaling. They shape how scales are justified and authorized: what agendas they serve. When socially embedded and institutionalized, models are enforceable. Taking up or imposing them is a powerful move, as illustrated by the dilemmas of the elderly German-Hungarian woman and Fanon, who were both dismayed by constraints on the identities they could convey. But it is equally illustrated by the success of the Hungarian economists.

The instantiation of models is an indispensable step in scaling. What are the units, categories, and/or qualities to be considered in specific circumstances? By what means are the models invoked? These questions point up the multiple roles of linguistic practices in constructing and construing scale. On the one hand, linguistic materials are among the objects compared by models. For instance, linguistic practices are used as evidence of contrasting qualities. On the other hand, communicative practices—by invoking semiotic models of measurement and comparison—also constitute the pragmatics of scale. They are the means by which scaling-as-practice is situated and accomplished. Communicative, and specifically linguistic, practices are the means by which models are put to work organizationally, institutionally, and interactionally in projects of scale-making.

NOTES

My thanks to Judith T. Irvine for her comments on this paper and for our continuing productive collaboration on matters of language ideology and scale.

1. Moore (2008), Latour (2005, 220), and Tsing (2005), among others, urge us to take up these questions, noting that “micro/macro, local/global” are not neutral frames. *Scale* is a term used in many ways; untangling them is part of the point of this chapter.

2. Qualities and dimensions for scaling are as various as “length,” “cost,” “consequentiality,” or “beauty”; *models* for comparison are the focus of this chapter. This is an analytical distinction we should make before adopting the conventional vertical topography of scales or Latour’s flat imaginary.

3. Morgan and Morrison (1999) point out the indispensability of situated narratives for understanding and justifying models in all scholarly disciplines. This is further developed as a Peircean insight in recent understandings of ritual (Silverstein 2004).

4. I thank the editors for asking me to clarify this example. Semiotic infrastructures include lists, forms, scenarios, and charts (Anderson 2008, 167–191; Bowker and Star 1999, 135–163; Lampland and Star 2009), all of which have creative/performative effects.

5. In addition, some ideologies assign dialects to languages in a presumed part/whole relation that is seen as scalar, dialects defined or thought to be somehow “smaller” than and included in languages.

6. Other examples could be equally revealing. Ethnographic and linguistic materials from Europe, Africa, Southeast Asia, and North America have illustrated this process as making differentiation. The point here is to exemplify its relevance for scaling.

7. The best instantiations of these categories were people from the richest farmer and artisan families. A large proportion of the town’s population was poor agricultural laborers; they were erased from this ideological regime but aligned themselves with it nevertheless (see Gal 2013).

8. Beauty can serve as an example of how *contrasts*, *gradients*, and *units* are different ways of conceptualizing values and qualities: if beauty is in the eye of the beholder, then it is a matter of perspective, in opposition to what is not beauty for the beholder. A contrast set is created. Treated as something to be judged in a contest, however, beauty is made into a gradient or ordering that allows first-, second-, and third-place winners. Finally, metrologists have joked about creating a standard unit of beauty, to be called “the helen.” The millihelen would then be fixed (perhaps with claims to a-perspectivalness) as the amount that launches one ship (Crease 2011, 180). It is important to note that all languages have resources for creating comparisons and ordinal gradients—for example, in English by inflection as in *pretty*, *prettier*, *prettiest*, or adverbially with *more* and *most*. We could posit beauty as a single underlying dimension, as is often done. But making it a dimension (rather than a simple contrast) is itself an ideological move, its motivations and effects worth noticing and analyzing. As the examples here show, beauty is conceptualized and thus ideologized in different ways when viewed through what are conventionally called nominal, ordinal, or ratio measures. In the process, beauty is submitted to different models of scaling, made ready to serve diverse social projects.

9. A census had asked about German mother tongue. Those who claimed it, as well as members of a certain German ethnomilitary organization, were charged with Nazism and expelled. This is deeply ironic, since Hungary was a German ally in the war.

10. Only in the mid-2000s was the idea of “dual identity” for minority-language speakers formulated in Hungary (Bindorffer 2007). Note the parallel to segmentary lineages, though the process is analyzed here as ideological (Evans-Pritchard 1940).

11. Tambiah (1996, 185–193), Latour (2005), and Bockman and Eyal (2002) describe somewhat similar ethnographic situations.

12. The so-called Third World was the venue of proxy wars between the other two. The Non-Aligned Movement, through its name, revealed the structure it was trying to oppose.