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Matters of Vagueness and Articulation

It is . . . easy to be certain. One has
only to be sufficiently vague.¹

—C. S. Peirce

Abstract

Embraced by the arts but a nuisance to science, vagueness is often depicted not by its potential but by what it is lacking. As an inherent trait of language and embodied cognition, though, vagueness is the continual starting point of processes of articulation that allow for exploring and redrawing the boundaries between grasping and what is grasped. It is on inarticulate grounds, through vagabond thoughts and groping words, that forms as well as concepts come about.

Vagueness

Five grains of sand hardly make a heap. Five million of them do, provided they are arranged accordingly. If we add one grain of sand to five, the ensemble is still far from being heap-like. If n grains are not enough to form a heap, $n+1$ grains won't do the trick either. From this assumption one might conclude that even by accumulating a million grains, one by one, a proper heap will never develop. Obviously, this is not the case. Eventually, at some indefinable point, if you were to ask someone what they see in front of them, they would answer without hesitation that it is a heap of sand.

This thought experiment is known as the sorites paradox, from the Greek *soros*, meaning “heap,” and was devised by Eubulides of Miletus, a contemporary of Aristotle, in the fourth century before our time. It is the prime example of the philosophical problem of vagueness.² *Heap* is a vague term that provides for soft transitions and entails doubtful instances regarding its applicability. Other examples of such cases are *bald* or *blessed with a thick head of hair*; *early* or *late*, *cold* or *warm*, *large* or *small*, *still blue* or *already green*.

1 Charles Sanders Peirce, *Collected Papers of Charles Sanders Peirce* (CP), vols. 1–6, ed. Charles Hartshorne and Paul Weiss (Cambridge, MA: Harvard University Press, 1931–1935), vols. 7–8, ed. Arthur W. Burks (Cambridge, MA: Harvard University Press and the Belknap Press, 1958), vol. 4, CP 4.237.

2 For more details on the sorites paradox see for example Crispin Wright, *The Riddle of Vagueness: Selected Essays 1975–2020* (Oxford: Oxford University Press, 2021), chapters 2, 4, and 14; Dominic Hyde, “The Sorites Paradox,” in *Vagueness: A Guide*, ed. Guiseppina Ronzitti (Dordrecht et al.: Springer, 2002), 1–17.

All these designations, like most if not all colloquial expressions, are vague. They do not allow one to specify exactly the point at which something can be considered to be a heap, warm, early, or green—and within a certain range they are enormously tolerant with respect to the conditions that determine when a predicate can be legitimately ascribed to something.³ The difference between two or three million grains of sand can be easily ignored. Any temperature reading between 27° and 34° Celsius counts as warm in a weather forecast. In everyday life, the use of vague terms generally does not cause difficulties. They are handled with remarkable flexibility, and certainty about their meaning in a given situation is not affected by whether their attribution is logically permissible. However, for adherents of bivalent logic, in which every proposition has to be either true or false, when it comes to statements about the intension or extension of a term—that is, its internal content or the totality of cases to which it applies—such ill-defined boundaries are the subject of philosophical debates with a long and ongoing history.⁴

Of course, the above considerations are not seriously about the number of grains of sand or units of temperature. What is at stake here is nothing less than the question of how our predicates and concepts are formally defined and how they relate to reality.⁵

Etymological Nuances

In non-philosophical contexts, definitions and synonyms of *vague* have a rather negative overtone. They are consistently characterized by the absence of obviously more desirable qualities: *indistinct*, *undetermined*, *imprecise*, *unspecific*, *not* clearly expressed, sensed, or felt, *not* sharply outlined—the deficient mode can hardly be overlooked.

However, the etymology of the term shows a different picture. In earlier usage, vagueness was associated less with a lack of precision than with a lack of consistency and stability, which was not necessarily seen as a disadvantage. The English term *vague* derives from French *vague*, which in the sixteenth century carried the meaning of

3 “What is involved in treating these examples as genuinely paradoxical is a certain *tolerance* in the concepts which they respectively involve, a notion of a degree of change too small to make any difference, as it were.” Crispin Wright, *The Riddle of Vagueness*, 84.

4 For a short overview, see Geert Keil, “Vagheit,” in *Handbuch Metaphysik*, ed. Markus Schrenk (Stuttgart: Metzler, 2017), 121–27; Philipp Stoellger, “Vagheit,” in *Historisches Wörterbuch der Rhetorik*, vol. 10: Nachträge A–Z, ed. Gert Ueding (Berlin: De Gruyter, 2012), 1364–77; Roy Sorensen, “Vagueness,” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, <https://plato.stanford.edu/entries/vagueness/>.

5 The question of whether vagueness is a feature of our symbolic access to the world or whether objects themselves can be vague has been intensely debated time and again. What follows is primarily concerned with the epistemic and representational aspect of vagueness regarding the means by which we conceptually and linguistically articulate particular objects, as was first elaborated in Bertrand Russell’s seminal text on the topic. Bertrand Russell, “Vagueness,” *Australasian Journal of Philosophy and Psychology* 1, no. 2 (1923): 84–92.

“empty, vacant” (stemming from Latin *vacuus*), or “wild” and “uncultivated” (stemming from Latin *vagus*, “rambling, strolling,” or “wandering”).⁶

Finally, a glance at the career of the term in aesthetics—especially in early modern Italy—shows that the connotation of an iridescent movability is anything but negative, quite the contrary. The Italian adjective *vago* and its corresponding noun *vaghezza* are conceptually equated with beauty, lightness, ease, and grace—qualities of things one takes pleasure in and objects of desire.⁷ To be endowed with *vaghezza* can be a characteristic of faces and landscapes, of ways of acting and behaving, as well as of styles of expression—styles that are captivating in their variety and versatility and that can be attributed not only to painters or poets, but, surprisingly, also to scientists. In a letter to Leopoldo of Tuscany concerning the debate on the secondary light of the moon, Galileo Galilei notes that his way of writing might seem hyperbolic to certain people, namely, those who would prefer

to see philosophical teachings confined to the narrowest possible spaces, so that they would always use that rigid and concise manner, stripped of any vagueness or ornamentation, which is proper to pure geometers, who do not utter a word that is not suggested to them by absolute necessity.⁸

Ornamentation here is not to be confused with mere embellishment. What Galileo is claiming is that a rhetorical approach to the world, including scientific topics, is capable of establishing a form of knowledge in its own right—a form of cognition that is in no way inferior to “pure” and straightforward scientific knowledge, but rather complements it.⁹

So, what is vague is fraught with a lack of clarity that may often be tolerable or even advantageous because it is more efficient for communication than overly precise specifications; but in critical cases it should be methodically remedied. Turned positively, however, vagueness can also be understood in terms of playful openness, as a freedom to approach the world afresh—beyond habits, beyond rigid rules and definitions.¹⁰

6 See Online Etymology Dictionary, “vague,” https://www.etymonline.com/search?q=vague&ref=searchbar_searchhint.

7 See Istituto Giovanni Treccani, “vago,” <https://www.treccani.it/vocabolario/vago1/>.

8 “[D]ubiterei che le mie parole, benché purissime e sincere, potessero apparire ad alcuno iperboliche o adulatorie: ad alcuno, dico, di quelli, che troppo laconicamente vorrebbero vedere, nei più angusti spazii che possibil fusse, ristretti i filosofici insegnamenti, sì che sempre si usasse quella rigida e concisa maniera, spogliata di qualsivoglia vaghezza ed ornamento, che è propria dei puri geometri, li quali né pure una parola proferiscono che dalla assoluta necessità non sia loro suggerita.” Galileo Galilei, Lettera al Principe Leopoldo di Toscana (March 31, 1640), in Galileo Galilei, *Le Opere*, Edizione Nazionale, ed. Antonio Favaro, 20 vols., vol. 8 (Florence: G. Barbera Editore, 1933), 489–545, 491. Translation by the author.

9 See Gottfried Gabriel, “Logisches und analogisches Denken. Zum Verhältnis von wissenschaftlicher und ästhetischer Weltauffassung,” in *Sprache und Denken/Language and Thought*, ed. Alex Burri (Berlin: De Gruyter, 1997), 370–84.

10 For a discussion of vagueness as an expressly valuable feature of language and thought, see, for example, Wolfram Hogrebe, “Indistinctness and Disunion,” *Dialogue and Universalism* 3 (2016): 5–14; Nora

Shaping Concepts

One is particularly far from being ruled by habits—habits of acting, talking, or recognizing—when they have not yet been formed at all; that is, whenever one learns or begins to articulate something for the very first time. It is in such cases that the *acts* of differentiation and the *movements* of articulation come into view.

In a text on the essential role of the body for (re)constructing regularities, from fundamental spatial and temporal articulations to social and symbolic practices, Gunter Gebauer holds that “[m]ovements are the principle of the first creation of the world of man.”¹¹ Born and placed into existing orders, we have to adapt to them if we want to act and communicate successfully. But at the same time, we also create and modify them through our own actions. This mutual form-giving takes place in an interaction between the plasticity of the human body and the malleability of its environment. The most striking example of such a two-sided plasticity is given by the touching, modeling, and indicating movements of the hand. The hand can take on the most diverse shapes, and it forms both itself and the world around us, “which makes it appear as the center of production of orders through the body . . . that leaves neither side unchanged.”¹²

Embodied articulatory movements are initially vague and exploratory. Stable orientations and structured sequences of actions are developed and internalized over a long period of practice and differentiation, without having to be already grasped linguistically. Rather, explicit symbolic orders are rooted in these bodily learning processes¹³—and it is precisely the embodiment of language that is much lamented and has been subjected to attempts at methodical elimination when it comes to the dream of pure thought. To detach thinking from bodily experience, though, is to deprive it of its own origin and presuppositions. For accuracy, being embodied is both an obstacle and a prerequisite.¹⁴

Kluck, *Der Wert der Vagheit* (Berlin: De Gruyter, 2014); Kees van Deemter, *Not Exactly: In Praise of Vagueness* (Oxford: Oxford University Press, 2010).

11 “Bewegungen sind das Prinzip der ersten Schöpfung der Welt des Menschen.” Gunter Gebauer, “Ordnung und Erinnerung. Menschliche Bewegung in der Perspektive der Historischen Anthropologie,” in *Bewegung. Sozial- und kulturwissenschaftliche Konzepte*, ed. Gabriele Klein (Bielefeld: transcript Verlag, 2004), 23–41, 24. Translation by the author.

12 “Diese zweiseitige Plastizität, die sich darin ausdrückt, dass sie verschiedenste Gestalten anzunehmen und sowohl sich selbst als auch die Umweltdinge zu formen vermag, lässt die Hand als das Zentrum der Herstellung von Ordnungen durch den Körper erscheinen. Ihre Vermittlung zwischen den Dingen und dem Körper lässt beide Seiten nicht unverändert.” Gunter Gebauer, “Ordnung und Erinnerung,” 30. Translation by the author.

13 See Gunter Gebauer, “Hand und Gewißheit,” in *Das Schwinden der Sinne*, ed. Dietmar Kamper and Christoph Wulf (Frankfurt: Suhrkamp, 1984), 234–60.

14 “Embodiment makes thought logically vague, but it also makes thought possible,” writes John Michael Krois, “Image, Science and Embodiment: Or: Peirce as Image Scientist,” in *Bildkörper und Körper-*

Precision and Flexibility

It was the program of analytic philosophy to conceive of the problems of thought as problems of language and to eliminate them either by constructing a conceptual language or by critically analyzing ordinary language. In his short text “On the Scientific Justification of a Concept Script,” Gottlob Frege elaborates on the ideal of a system of symbols that leaves no room for vague and doubtful expressions. The image he chooses to illuminate the difference between embodied ordinary language and its purified logical sibling is precisely the malleability of the hand compared to the accuracy of a specialized tool:

The shortcomings here stressed are caused by a certain softness and instability of language which, on the other hand, constitute the reason for its many-sided usefulness and potentiality for development. In this respect language can be compared to the hand which, despite its adaptability to the most diverse tasks, is still inadequate. We build ourselves artificial hands—tools for special purposes—which function more exactly than the hand is capable of doing. And how is this exactness possible? Through the very rigidity and inflexibility of the parts, the lack of which makes the hand so dexterous.¹⁵

The above passage is reminiscent of another comparison that figures in the *Concept Script* itself. Here, too, a physical access to the world is contrasted with an instrumental one. This time, however, not in relation to haptics, but to the visual sense:

I believe that the relation of my concept-script to the language of life can be most clearly brought out if I compare it to the microscope's relation to the eye. Because of the range of its uses and the versatility with which it can adapt to the most diverse circumstances, the eye is far superior to the microscope. It is true that when considered as an optical instrument, it shows many imperfections, which ordinarily go unnoticed only as a result of its intimate connection with our mental life. However, as soon as scientific purposes require greater sharpness of discrimination, the eye proves to be insufficient. The microscope, on the other hand, is perfectly suited to precisely such purposes, but that is just why it is useless for all others.¹⁶

schema: Schriften zur Verkörperungstheorie ikonischer Formen, ed. Horst Bredekamp and Marion Lauschke (Berlin: De Gruyter, 2011) 195–209, 207.

15 Gottlob Frege, “On the Scientific Justification of a Concept-Script,” trans. James M. Bartlett, *Mind* 73, no. 290 (April 1964): 155–60, 158. “Die hervorgehobenen Mängel haben ihren Grund in einer gewissen Weichheit und Veränderlichkeit der Sprache, die andererseits Bedingung ihrer Entwicklungsfähigkeit und vielseitigen Tauglichkeit ist. Die Sprache kann in dieser Hinsicht mit der Hand verglichen werden, die uns trotz ihrer Fähigkeit, sich den verschiedensten Aufgaben anzupassen, nicht genügt. Wir schaffen uns künstliche Hände, Werkzeuge für besondere Zwecke, die so genau arbeiten, wie die Hand es nicht vermöchte. Und wodurch wird diese Genauigkeit möglich? Durch eben die Starrheit, die Unveränderlichkeit der Teile, deren Mangel die Hand so vielseitig geschickt macht.” Gottlob Frege, “Über die wissenschaftliche Berechtigung einer Begriffsschrift,” in *Begriffsschrift und andere Aufsätze*, ed. Ignacio Angelelli (Hildesheim: Georg Olms Verlag, 1993 [1882]), 106–14, 110.

16 Gottlob Frege, *Conceptual Notation and Related Articles*, ed. and trans. Terrell Ward Bynum (Oxford: Clarendon, 1972), 105. “Das Verhältnis meiner Begriffsschrift zur Sprache des Lebens glaube ich am deut-

Apparently, what makes a good instrument and an excellent microscope is a lousy tool for practical life goals and for situations that do not require razor-sharp definitions and the precise spelling out of details. For in everyday life, our cognitions take place mostly in the form of a pre- or sub-semantic certainty that is sufficient for practical guidance. Wolfram Högbe calls such a tacitly given apprehension that is not built up along explicitly thought-out criteria “scenic understanding.”¹⁷ It allows the intuitive split-second evaluation of a situation in which we are involved. Instead of the propositional cognition of single semantic properties, what counts is a holistic and existentially meaningful hunch—is something for or against us, is it propitious, threatening, or indifferent?¹⁸

In his *Treatise on the Origin of Language*, Johann Gottfried Herder pictures an equally existential and inarticulate moment in which not just subject and predicate, but even agents and actions cannot be distinguished from one another. The first appearance of language takes the form of “Resounding verbs? Actions, and still nothing which acts there? Predicates, and still no subject? The. . . thought of the thing itself still hovered between the agent and the action.”¹⁹ As the cognitive linguist Michael Tomasello has shown, also in infant language acquisition, language is not learned by assembling elements that are understood in isolation, but by attending to larger, inarticulate scenes in which agent, patient, events, individual objects, and grammatical roles only subsequently become distinguishable from one another.²⁰

lichsten machen zu können, wenn ich es mit dem des Mikroskops zum Auge vergleiche. Das Letztere hat durch den Umfang seiner Anwendbarkeit, durch die Beweglichkeit, mit der es sich den verschiedensten Umständen anzuschmiegen weiss, eine grosse Ueberlegenheit vor dem Mikroskop. Als optischer Apparat betrachtet, zeigt es freilich viele Unvollkommenheiten, die nur in Folge seiner innigen Verbindung mit dem geistigen Leben gewöhnlich unbeachtet bleiben. Sobald aber wissenschaftliche Zwecke grosse Anforderungen an die Schärfe von Unterscheidungen stellen, zeigt sich das Auge als ungenügend. Das Mikroskop hingegen ist gerade solchen Zwecken auf das vollkommenste angepasst, aber eben dadurch für alle andern unbrauchbar.” Gottlob Frege, *Begriffsschrift. Eine der arithmetischen nachgebildete Formelsprache des reinen Denkens* (Halle: Verlag von Louis Nebert, 1879), V.

17 Wolfram Högbe, *Riskante Lebensnähe: Die szenische Existenz des Menschen* (Berlin: Akademie Verlag, 2009), see especially 50–58.

18 An example Högbe gives is a crime scene: “[S]omeone enters a dark cellar in the night, and there sees four armed figures at a table weakly lit by a swaying lamp. Unless this is a trusted group of conspirators to which this someone belongs, he/she will sense with lightning speed that the situation is ‘risky’.” Wolfram Högbe, “Indistinctness and Disunion,” 13.

19 Johann Gottfried Herder, “Treatise on the Origin of Language,” in *Philosophical Writings*, trans. and ed. Michael N. Forster (Cambridge, UK: Cambridge University Press, 2002), 65–164, 100. “Tönende Verba? Handlungen, und noch nichts, was handelt? Prädikate und noch kein Subjekt? . . . Der Gedanke an die Sache selbst schwebte noch zwischen dem Handelnden und der Handlung.” Johann Gottfried Herder, *Abhandlung über den Ursprung der Sprache* [1772], in idem, *Werke in zehn Bänden*, vol. 1, *Frühe Schriften 1764–1772* ed. Ulrich Gaier (Frankfurt: Deutscher Klassiker Verlag, 1985), 695–810, 737.

20 Michael Tomasello, *The Cultural Origins of Human Cognition* (Cambridge, MA: Harvard University Press, 1999), 134–200.

Precisely individualized traits—be they of situations, of epistemic objects, or sentences—are singled out in all-encompassing scenic contexts with internally blurred boundaries between their compositional elements. Both the immediate comprehension of wholes and their articulation is deeply rooted in vague and continual embodied movements. The attempt to overcome the latter completely is paid for with the loss of flexible, versatile exploration and creativity that characterize original acts of determination, and lets the way in which situations concern us existentially fade into the background.

Family Resemblances

The later Wittgenstein sees vagueness not as a deficiency but as a necessary condition of language. According to his use theory of meaning developed in the *Philosophical Investigations*,²¹ the introduction of concepts is mostly accomplished by giving examples of the use of terms in rule-based “language games.” Since the number of possible usages is in principle open, the final determination of a concept cannot be achieved, which is why it remains intensionally vague. Moreover, its diverse extensions are not conceived as having one general characteristic in common, but as being interlaced in a braid of “family resemblances,” as Wittgenstein explains with regard to various games: some are a matter of luck, others of skill; some you play with several people, and others on your own. Being cooperative, competitive, or entertaining is by no means a distinguishing feature of all of them and is not one of games alone. Soccer, hide-and-seek, chess, and solitaire are all instances of games, but they are neither organized in a hierarchical structure, nor do they all have a common property. Accordingly, the concept of *game* is also extensionally vague, since the single examples are perceived as belonging to the same family only through affinities and similarities:

I can think of no better expression to characterize these similarities than “family resemblances”; for the various resemblances between members of a family: build, features, colour of eyes, gait, temperament, etc. etc. overlap and criss-cross in the same way. And I shall say: ‘games’ form a family.²²

Like Frege, Wittgenstein also emphasizes the tool character of language.²³ However, he sees it not merely as an external instrument for the transmission of meaning. Just as the hand both shapes and is shaped by the objects and surroundings it deals with, language is the malleable active medium through which concepts are formed and devel-

²¹ Ludwig Wittgenstein, *Philosophische Untersuchungen / Philosophical Investigations*, 2nd edition, trans. G. E. M. Anscombe (Oxford: Blackwell, 1997). As is common in Wittgenstein research, passages from the *Philosophical Investigations* (PI) will be cited by paragraph numbers and PI I, and quotations from Part II by page numbers and PI II.

²² Ludwig Wittgenstein, PI I, 67.

²³ “Look at the sentence as an instrument, and at the sense as its employment.” “Sieh den Satz als Instrument an und seinen Sinn als seine Verwendung!” PI I, 421.

oped. Besides, Wittgenstein's demand to infer the meaning of concepts by observing their occurrences is explicitly tied to bodily participation and sense perception rather than to reflection: "Don't say: 'There must be something common, or they would not be called 'games'—but *look and see* whether there is anything common to all."²⁴ This view is most likely to be obtained by the unaided eye and not by peering down the microscope. Moreover, to *look and see* in a kind of groping, almost "haptic" way of gazing takes on the attitude of the hand and explores both what constitutes a family and the properties of its members. In this poietic, exploratory perspective, the traditional distinction between eye and hand—as the sensory modalities of theory and practice—is suspended.

If, in the vein of methodical culturalism,²⁵ we understand philosophical and scientific terminologies as stylizations of ordinary ways of talking,²⁶ and these, in turn, as rooted in practical handling of things, it becomes clear that the truth value of scientific statements derives from the certainty of action. The merely postulated essence of a general concept would, on the contrary, equate with a look through the microscope that no one takes, from an angle of view that does not concern us.²⁷

Articulating Vagueness in Interdisciplinary Terminologies

Such a flexible approach can prove to be particularly fruitful when in interdisciplinary research we are concerned with developing and determining a common explanandum along with the linguistic means for capturing it. If we wish to know what the concepts of *matter*, *activity*, *symbol*, or *communication* are all about, we have to look at how the terms are actually used and to which cases they are applied. The different instances are likely to let the terminological boundaries appear vague simply by being so manifold.²⁸ Take, for example, the use of terms for actions and processes that could be understood

24 "Sag nicht: 'Es muß ihnen etwas gemeinsam sein, sonst hießen sie nicht 'Spiele' – sondern schau, ob ihnen allen etwas gemeinsam ist. – Denn, wenn du sie anschaust, wirst du zwar nicht etwas sehen, was allen gemeinsam wäre, aber du wirst Ähnlichkeiten, Verwandtschaften, sehen, und zwar eine ganze Reihe." Ludwig Wittgenstein, *PI* I, 66.

25 See Dirk Hartmann and Peter Janich, ed., *Methodischer Kulturalismus: Zwischen Naturalismus und Postmoderne* (Frankfurt: Suhrkamp, 1996); idem, *Die kulturalistische Wende: Zur Orientierung des philosophischen Selbstverständnisses* (Frankfurt: Suhrkamp, 1998).

26 Wittgenstein talks about guiding words to their "original home" by "bringing them back from their metaphysical to their everyday use." *PI* I, 116.

27 Referring to the "fleshless and skeletal entities" of mathematical propositions, which are the very opposite of vagueness, Peirce formulates the counterpart of what was quoted in the motto of this paper: "It is easy to speak with precision upon a general theme. Only, one must commonly surrender all ambition to be certain." Peirce, *CP* 4.237.

28 "[A] representation is *vague* when the relation of the representing system to the represented system is not one-one, but one-many." Russell, "Vagueness," 89.

as “symbolic” because they seem to be “communicative” in a way. Some of them include communicative intentions, others are “telling” or “showing,” or display a kind of feedback behavior. The meaning of *communication* in its broadest sense is the “exchange or transmission of information,” where the use of the term can comprise as diverse processes as talking, waving signal flags, annual rings of tree trunks, oxygen level changes in the blood flow, or intracellular small-molecule signaling between bacteria.²⁹ The activity of a pine cone opening and releasing its seeds under the influence of decreasing humidity may show certain similarities to other responses to environmental conditions—like taking an umbrella for a walk when it’s raining or when someone informs us that it will soon start to do so—but these are well-limited. In the face of a multitude of undeniable differences, how can we prevent the concept of communication from becoming intangible?

One might assume that obtaining precise terms is simply a matter of looking more closely, of narrowing the field of observation. A term would then become successively clearer the more we fade out larger contexts and concentrate only on a small subarea of its application. But both contextualizations and decontextualizations have their vagueness and exactness, and the more precisely the details are defined, the more blurred the overarching idea becomes. Grasping the borders of the latter is oftentimes rather a matter of taking a step back.³⁰ And the view of the all-encompassing context thus gained disintegrates when approaching the details again. Wilhelm von Humboldt captured the impossibility of determining the general character of language in the image of a cloud: From a distance, you view it as a whole, but when you dive into it, all its contours dissolve:

If the description of the character of an individual or even of a nation is awkward enough, that of the character of a language is even more so. Whoever has attempted it will soon realize that when he is about to say something general, he becomes indeterminate, and when he wants to go into detail, the solid figures slip away, just as a cloud covering the summit of a mountain shows a solid figure from afar, but dissolves into mist as soon as one steps into it.³¹

²⁹ It is, of course, highly problematic to fall into epistemological naturalism and not take the “communicative” anthropomorphization of trees and molecules for what it is, namely a heuristic metaphor.

³⁰ “Who wishes to embrace contexts must do so from a distance, who desires detail, however, must draw closer. Who wants to bring out the whole must ‘dim the lights’.” Högrefe, “Indistinctness and Disunion,” 10.

³¹ “Wenn schon die Schilderung des Charakters eines Individuums oder gar einer Nation in Verlegenheit setzt, so thut dies noch mehr die des Charakters einer Sprache. Wer sie jemals versucht hat, wird bald inne werden, dass, wenn er etwas Allgemeines zu sagen im Begriff ist, er unbestimmt wird, und wenn er ins Einzelne eingehen will, die festen Gestalten ihm ent schlüpfen, so wie eine Wolke, welche den Gipfel eines Berges deckt, wohl von fern eine feste Gestalt zeigt, aber in Nebel zerfließt, so wie man in dieselbe hinein tritt.” Wilhelm von Humboldt, “Latium und Hellas oder Betrachtungen über das klassische Alterthum,” in idem, *Gesammelte Werke*, vol. 3, 1799–1818, ed. Albert Leitzmann (Berlin: B. Behr’s Verlag, 1904) photomechanischer Nachdruck Walter de Gruyter & Co., Berlin 1968, 136–70, 167. Translation by the author.

The detailing of individual figures can even prevent us from coming upon analogies and affiliations at all, that is, it keeps us from identifying a family of usages or from tentatively outlining an area. Family resemblances are not given; they have to be inventively claimed.³²

Turning back to the notion of communication, there is no one and only concept of it beyond the usage of the term in particular language games that all have their specific purposes. Within the framework of an assumed family resemblance, examples given in particular contexts—in the form of open-ended meanings that shift between the language games of different disciplines—broaden and modulate a concept. They do so by fanning out a multitude of nuances and aspects that can be perceived *as* aspects only by comparing them in the process of adumbrating a loosely organized network of resemblances,³³ including metaphorical ones. Metaphors forgive considerable vagueness and are still understood. And, what is more, they engender similarities rather than presuppose them.³⁴

What we gain by the careful observation of uses and by tolerating notions with blurred edges is a plastic morphology of our common terms. This turns vagueness, a notorious scientific vice, into a virtue and fosters the discovery of both similarities and differences in conceptual wholes as they develop.³⁵ Embracing vagueness, welcoming metaphors as well as vagabond words and thoughts in interdisciplinary research, entails both the versatility of the hand and the pursuit of precision. It means playing with distances and a plurality of perspectives, and thus understanding the determination of a whole and the articulation of its manifold forms and figures as interrelated movements.

32 See Wittgenstein, *PI* I, 68: "For how is the concept of a game bounded? What still counts as a game and what no longer does? Can you give the boundary? No. You can draw one; for none has so far been drawn. (But that never troubled you before when you used the word 'game'.)" "Wie ist denn der Begriff des Spiels abgeschlossen? Was ist noch ein Spiel und was ist keines mehr? Kannst du die Grenzen angeben? Nein. Du kannst welche ziehen: denn es sind noch keine gezogen. (Aber das hat dich noch nie gestört, wenn du das Wort 'Spiel' angewendet hast."

33 "I contemplate a face, and then suddenly notice its likeness to another. I *see* that it has not changed; and yet I see it differently. I call this experience 'noticing an aspect'." "Ich betrachte ein Gesicht, auf einmal bemerke ich seine Ähnlichkeit mit einem andern. Ich *sehe*, daß es sich nicht geändert hat; und sehe es doch anders. Diese Erfahrung nenne ich 'das Bemerkens eines Aspekts'." Wittgenstein, *PI* II, 193.

34 See Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis: The Bobbs-Merrill Company, 1968), 77: "Instead of metaphor reducing to simile, simile reduces to metaphor."

35 Or, as Hogebe puts it: "Thoughts which bring out the whole even if they are somewhat vague (cognitions obscurae vel confusae) are not bivalent in the usual sense—i.e. true or false—but, as a monovalent 'yes,' simply nice." Hogebe, "Indistinctness and Disunion," 11.