Neurath's ship metaphor

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In our paper, we explore the question of what is wrong with Neurath's "plank-by-plank" method, which Quine later also adopted with enthusiasm. Shipbuilding experts will confirm that plank-by-plank replacement is only possible in the dock and never on the open sea. This is simply empty talk, *flatus vocis*, often attributed to philosophers. The main problem with Neurath's ship metaphor is that it is completely alien to the seafarers' way of life, or even in stark contradiction to it. If it is the task of philosophy to bring order into the house of concepts, the use of metaphors should also be scrutinized. Any practical test of the plank-by-plank methodology would prove unsuccessful, for as soon as one would remove a plank from the ship, the ship would sink very quickly due to the onslaught of the water. If the philosophers argue for empiricist epistemology, as Neurath and Quine do, they should not use such utopian metaphors in which the practical life world is completely ignored. When philosophers argue for an empiricist epistemology, as Neurath and Quine do, they should be more careful in their use of metaphors that exclude empiricism, practice, and the practical world of life. It is rather a vivid example of abstract armchair philosophy to explain how science works. Finally, it remains a problem to elaborate a concept of epistemology by "philosophizing" abstractly about empiricism and empiricist epistemology without referring to concrete life experiences. Neurath's boat metaphor, praised by Quine, is, unfortunately, an example of epistemology without reference to concrete forms of life, and it is still questionable whether we can achieve anything factually with such non-functional metaphors, let alone make the process of cognition scientifically plausible. The whole thing is reminiscent of the scholastic witty remark about how someone convincingly tries to talk about swimming without jumping into the water. Every sailor knows that a ship could only be serviced and repaired in a dock. Seafaring as a way of life, all the turbulence associated with this form of life, obviously remained unknown to Neurath, who spent most of his life in a continental, mountainous country, so it is fair to say that he used a very unusual metaphor not grounded in the practice of life, which, to make the paradox even greater, is meant to represent a naturalistic-empiricist concept of knowledge.

Keywords: Neurath's ship, empiricism, naturalized epistemology, scientific tradition, lifeworld, form of life

Mетафора корабля нейрата

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В нашей статье мы исследуем вопрос о том, что не так с методом «доска за доской» Нейрата, который позже с энтузиазмом перенял Куайн. Эксперты в области судостроения подтвердят, что замена доски за доской возможна только в доке и никогда в открытом море. Это просто пустая болтовня, flatus vocis, часто приписываемая философам. Главная проблема метафоры корабля Нейрата заключается в том, что она полностью чужда образу жизни моряков или даже находится в резком противоречии с ним. Если задача философии состоит в том, чтобы навести порядок в доме понятий, то использование метафор также должно быть тщательно обосновано. Любое практическое испытание методики «доска за доской» оказалось бы безуспешным, поскольку, как только кто-то снял бы доску с корабля, корабль очень быстро затонул бы из-за напора воды. Если философы отстаивают эмпирическую эпистемологию, как это делают Нейрат и Куайн, им не следует использовать такие утопические метафоры, в которых мир практической жизни полностью игнорируется. Когда философы отстаивают эмпирическую эпистемологию, как это делают Нейрат и Куайн, им следует быть более осторожными в использовании метафор, которые исключают эмпиризм, практику и практический опыт. Это довольно яркий пример абстрактной кабинетной философии, объясняющей, как работает наука. Кроме того, остается проблемой разработка концепции эпистемологии путем абстрактного «философствования» об эмпиризме и эмпирической эпистемологии без обращения к конкретному жизненному опыту. Метафора лодки у Нейрата, высоко оцененная Куайном, является, к сожалению, примером эпистемологии без привязки к конкретным формам жизни. Все еще остается вопросом, сможем ли мы чего-либо фактически достичь с помощью таких нефункциональных метафор, не говоря уже о том, чтобы сделать процесс познания научно правдоподобным. Все это напоминает схоластическое остроумное замечание о том, как кто-то убедительно пытается рассказать о плавании, не прыгая в воду. Каждый моряк знает, что корабль можно обслуживать и ремонтировать только в доке. Мореплавание как образ жизни, все трудности, связанные с этой формой жизни, очевидно, оставались неизвестными Нейрату, который провел большую часть своей жизни в континентальной горной стране. Поэтому справедливо утверждать, что он использовал очень необычную метафору, не основанную на жизненной практике, которая – чтобы сделать парадокс еще более грандиозным – предназначалась для представления натуралистически-эмпирической концепции знания.

Ключевые слова: Корабль Нейрата, эмпиризм, натурализованная эпистемология, научная традиция, жизненный мир, форма жизни

Ship metaphors are an immensely popular topic in philosophical literature (cf. [Blumenberg, 1997, p. 7–71]. In the dialogue *Phaedo* (85 c/d) Plato uses an interesting metaphor of rowing on a raft to show how our reasoning takes place and how we must rely on our arguments. To Socrates' attempts to present plausible evidence about the immortality of the soul, his interlocutor Simias replies that it is either impossible or very difficult to obtain clear knowledge about these matters in our lives. Finally, there are two possibilities in our research and examination: Either one must learn or discover the truth about these things, or, if that is impossible, one must take a human doctrine (logos) that is best and hardest to disprove, and embark on it as on a raft (σχέδιος) and sail on it through life amid dangers until one can land on a stronger ship and make one's journey safer and less dangerous. In the Dialogue of the *Republic*, Plato explains this process as "surviving all attacks of refutation as in a battle" (*hôsper en machê(i) dia pantôn elenchôn diexiôn*) (R. 534c1–2). Symbolizing survival in battle, the most famous naval battle for an Athenian, as Plato was, is the battle of Salamis in 480 B.C. This battle was the first major naval battle recorded in history, marked as the salvation of European culture.

In *Phaedo*, Plato uses the term "second sea voyage" (*deuteros plous*) (Phd. 99c9–d1) in connection with his spiritual autobiography. This is a famous change of worldview: instead of "the study of nature" (physeôs historia), which was supposed to teach us "the truth of things" (alêtheia tôn ontôn), he decided to look at the truth in the logoi (Phd. 99e6). He compares this step with an escape – the "escape into the logoi" – and calls it the "second sea voyage" (*deuteros plous*) (Phd. 99c9–d1). *Deuteros plous* means the next best way, i.e., the way of those who try another method when the first is not successful. In the jargon of seafarers, it means using the oars because there is no wind to blow in the sails. Plato expresses himself very succinctly and ironically: "So I decided that I must take refuge in the logoi (*eis tous logous katapheugein*) and look at the truth of things in them" (Phd. 99e). David Gallop sees this as an epochal turning point in European philosophy: "The present passage marks the transition from a mechanistic to a teleological conception of the natural order that was to dominate European science for the next two thousand years." (*Phaedo*. Translated with notes by D. Gallop, Oxford 1975, S. 175). Argumentation in the so-called *deuteros plous* takes place as a process of setting and testing "hypotheses": "I always take as my hypothesis the logos that I judge to be the strongest, and what seems to me to agree with it I assert to be true, both with regard to a reason and concerning all other objects, but what does not seem to agree with it I assert to be not true" (Phd. 100a). The American Platonist Harold Cherniss claimed that Plato's great discovery was the insight that the world of phenomena could only be "saved", i.e. adequately explained, with the help of ideas, as presented in the second voyage: "The instability of phenomena

can be explained only by assuming a world of Ideas as a source of phenomenal characteristics" [Cherniss, 1936, p. 455]. From the teleological point of view, the ideas are shown to be hypotheses that enable the explanation of phenomena. When we admire the sunset in Zadar, as the director Alfred Hitchcock did, we have the possibility to use the idea of beauty or to explain it with the idea of the constellation of the sun and the earth, the options are open or possible.

Plato compared the question of governance to steering a ship (*Republic* 488a–489a); the famous parable was meant to discuss the question of who should govern the state, especially in a state of crisis and chaotic disorder. Plato uses the parable of the ship to illustrate that educated experts are the ones who must take responsibility for the government in the state. Only educated experts can carry out practical wisdom and make the right decisions for the state. The parable of the ship also illustrates the idea that the state should be guided by reason and wisdom and not by passion or lust.

The middle Platonist philosopher Plutarch (49–119) is known for his analysis of the identity of Theseus' ship, which was often renovated until it was completely reconstructed in the end, so it remains controversial whether it lost its identity.

Nietzsche was particularly enthusiastic about the ship metaphor: In his work *The Gay Science* he recommended to metaphysically oriented philosophers to leave the fixed principles of thinking, i.e., to send their ships into unknown seas in order to reach new insights and discoveries. In doing so, he had the ideal of Columbus in mind: His exclamation ends with the words: "There is another world to discover – and more than one! On to the ships, you philosophers!" [Nietzsche 2001, §289]

Otto Neurath also used the ship parable on several occasions in his work to make the process of our cognition plausible. Whether it was evident in the practice and lives of sailors as Plato's parable was or as the above-mentioned other metaphors, is still a question. We would like to propose that Neurath used incorrectly the metaphorical figure in his example of shipbuilding. This would result in the collapse of the meaning of Neurath's assumptions.

For the first time, in the text "Problems of the War Economy" (1913), the ship metaphor is used to show the extent to which we are connected to our tradition in our argumentation. Economics as a scientific discipline is particularly bound to tradition. In doing so, Neurath explicitly criticized Kant's ignorance of the scientific-philosophical tradition and history and his attempt to solve problems from the mind itself, which remains in the realm of abstraction. In this context, he mentions for the first time the metaphor of sailors on the high seas: "We are seamen who are forced on the open sea to repair our ship with planks that we carry <...> replacing plank after plank and thus changing the shape of the whole. Since they cannot dock in the harbour, it will never be possible for them to rebuild the ship from scratch. The new ship emerges

from the constant reshaping of the old one" ([Neurath, 1913, p. 457], our translation).

In the polemical treatise Anti-Spengler (1921), Neurath again uses the metaphor of a ship at sea in a somewhat modified form to question the thesis of the a priori necessity of Spengler's pessimistic prognoses about the downfall of Western civilization. One must not forget that Spengler's book "Downfall of the Occident" was the most widely read book of the Weimar Republic. Regarding the development of history, analogies about the eventual collapse of the West based on the example of the collapse of the civilizations of ancient Greece and Rome, that democracy will be followed by the period of rule by emperors and kings, are not applicable. As a plea for the openness of history, Neurath refers to Pierre Duhem and his understanding that any hypothesis about the development of events implies an analysis of the entire context. Neurath writes in this regard:

> That we always have to do with a whole network of concepts and not with concepts that can be isolated, puts any thinker into the difficult position of having unceasing regard for the whole mass of concepts that he cannot even survey all at once, and to let the new grow out of the old. Duhem has shown with special emphasis that every statement about any happening is saturated with hypotheses of all sorts and that these in the end are derived from our whole world-view. We are like sailors who on the open sea must reconstruct their ship but are never able to start afresh from the bottom. Where a beam is taken away a new one must at once be put there, and for this the rest of the ship is used as support. In this way, by using the old beams and driftwood, the ship can be shaped entirely anew, but only by gradual reconstruction (Anti-Spengler, 198/199).

One can say with full justification that Neurath here in essence anticipated the Duhem-Quine thesis on underdetermination, according to which hypotheses cannot be evaluated individually but as a whole. Neurath thinks similarly with regard to individual concepts, which must not be considered in isolation but in the context of the entire network. The objection also applies to Spengler's understanding of isolated cultures without their networking into a larger whole.

The most famous comparison of philosophers with seamen at sea is certainly the formulation in the article "Protocol Statements", published in the journal *Erkenntnis* (1933), in which he compared the task of empirical knowledge, which must above all be freed from metaphysical ballast to seamen who are at sea:

> There is no way to establish fully secured, neat protocol statements as starting points of the sciences. There is no ***tabula rasa***. We are like sailors who have to rebuild their ship on the open sea, without ever being able to dismantle it in drydock and reconstruct it from the best components. Only metaphysics can disappear without trace. Imprecise 'verbal clusters' ['Ballungen'] are somehow always part of the ship. If imprecision

is diminished at one place, it may well reappear at another place to a stronger degree (Neurath, O. "Protocol Statements", in: [Neurath, 1983 (1932/1933), p. 92, p. 204–214]).

Neurath argues in this essay against the possibility of finding a secure foundation of science in metaphysical principles, or in propositions and statements. According to the judgment of Moritz Schlick, the so-called propositions constituted the foundation of cognition or the "unshakeable points of contact between cognition and reality" (cf. [Schlick, 1934, p. 98]). In contrast, Neurath denied the existence of such a principle, to which we can progress through certain cognitive processes and which could function as the ultimate touchstone for the truth or falsity of our beliefs. According to Neurath, propositions have no privileged epistemic status, i.e. propositions are not true by virtue of correspondence with independent facts in the world, rather they are made true by accommodation to the 'edifice of science', and propositions are called 'false' by him when we cannot "reconcile them with the overall edifice of science". [Neurath, 1981 (1934), p. 613]. In the process of cognition, according to Neurath, we cannot refer to an incontrovertible foundation in the form of objective facts. As scientists and philosophers, we are like skippers on the open sea who have no way of getting to the dock with the ship but have to serve and repair it at sea.

It is important to emphasize that Neurath also considers philosophy as a discipline of education, which should eradicate metaphysics and abolish it completely, starting with childhood: "From the beginning we shall teach children the universal jargon – purged of metaphysics – as the language of unified science which has been historically provided. Each child can thus be 'trained' ("dressiert") to start with a simplified universal jargon and gradually advance to the universal jargon of adults. It makes no sense in our discussion to segregate this children's language as a special language. Otherwise one would have to distinguish all sorts of universal jargons. The child does not learn a 'primitive' universal jargon from which the grown-ups' universal jargon derives; the child learns a 'poorer' universal jargon, which is gradually enriched" [Neurath, 1983 (1932/1933), p. 92–93]. Unfortunately, philosophy has been reduced from paideia i.e. education (Bildung) to training (Dressur). Neurath ends his essay "Unified Science" (1936) with the assertion: "We take the view that by training (Dressur), every child can be taught a metaphysics-free physicalist language from the very beginning, which becomes a unified scientific language through supplementation and precision" [Neurath, 1981, p. 763] Instead of training and re-educating young children not to use metaphysical ideas in their thinking, we should try to understand, as Plato's Socrates did, why these ideas even emerge and how important are they in our adult lives. It usually happens that the 'simplest questions' of a child are indeed the most complicated and hard to answer.

Wittgenstein contributed significantly to the convergence of the philosophical method with the scientific method through his views in the *Tractatus Logico-Philosophicus*: "The correct method in philosophy would really be the following: to say nothing except what can be said, i.e., propositions of natural science" (*Tractatus*, 6.53). Wittgenstein's assertion from the *Tractatus* was mainly referred to by philosophers of the Vienna Circle, who resolutely pleaded for a scientific view of the world. In the manifesto of the Vienna Circle, "The Scientific Conception of the World" – written by Carnap, Hahn and Neurath – the authors equated philosophy and its method with that of the sciences, A scientific explanation and conception of the world was set up as a program and goal. Neurath formulated this succinctly: "The scientific conception of the world is – physicalism", and this *sensu stricto* is a "through-logicized empiricism" *(durchlogisierter Empirismus)* [Neurath, Gesammelte Schriften I, p. 43].

Although it is a manifesto of logical positivism, there is much practical advice in it, the philosophers of the Vienna Circle plead for practice and concrete living, against abstract idealisation and metahysical speculation: "Neatness and clarity are striven for, and dark distances and unfathomable depths rejected. In science there are no 'depths'; there is surface everywhere... Everything is accessible to man; and man is the measure of all things. Here is an affinity with the Sophists, not with the Platonists; with the Epicureans, not with the Pythagoreans; with all those who stand for earthly being and the here and now" [Neurath et al. 1973 (1929), p. 306]. These statements are an indication of how little of the history of science the representatives of the Vienna Circle knew when they advocated the relativistic negation of knowledge and ignored the achievements of the Pythagoreans and Plato in the field of mathematics.

Wittgenstein rejected the programmatic aspirations of the Vienna Circle and described the publication of the "Manifesto" as "meddling" („Geschaftlhuberei")[1]. Although Wittgenstein distanced himself completely from this methodology and conception of positivism in his later work, his views from *Tractatus* seem to have prevailed in academic life: the dominant philosophical current has become naturalism in its various variants.

Slightly different and critical towards naturalism in philosophy was Hilary Putnam. In his essay "Why Reason Can't Be Naturalized?" he gave a few arguments against attempts to naturalize the notion of reason and other important notions of the theory of knowledge. Putnam criticizes proponents of evolutionary epistemology by arguing that their definition of reason as a valuable capacity for survival [Putnam, 1982, p. 4] is flawed. Further, he also finds problems, such as the problem of the justifi-

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[1] Cf. Rudolf Haller, *Neopositivismus: eine historische Einführung in die Philosophie des Wiener Kreises.* Darmstadt: Wissenschaftliche Buchgesellschaft, 1993, p. 70.

cation and level of reliability, in Goldman's reliability theory of rationality, i.e., the theory of knowledge that defines "as a *rational* belief to be one which *is arrived at by using a reliable method*" [Putnam, 1982, p. 7]. Most of his critique however is focused on cultural relativism with regards to epistemology and definitions of reason. He views this relativism as maybe the most dangerous of all versions of naturalism and reductive empiricism since it implies that the fundamentally philosophical questions and thoughts are not important and deep at all. Putnam prognoses that cultural relativism can in some cases become 'cultural imperialism' because the criteria for assertibility is defined only as the set of cultural norms and nothing more. He claims that we do not have: "norms which decide philosophical questions" [Ibid., p. 13] and that it is up to us to critically examine, question, interpret, and reflect upon culturally normative beliefs. Of course, we have to establish a harmony between the acknowledgment of our immersion in life forms of various sociocultural circles on the one side, and our universal shared nature of reasoning and judgment on the other side.

In the famous essay "Unified Science and its Encyclopaedia," written for the journal *Philosophy of Science*, Vol. 4, No. 2, 1937, Neurath resolutely opposes any form of absolutism and absolute truth claims. Even terms verification and refutation are problematic for him because of their absolutist flavour. Consequently, he writes: "We possess no fixed point which may be made the fulcrum for moving the earth, and in like manner we have no absolutely firm ground upon which to establish the sciences. Our actual situation is as if we were on board a ship on an open sea and were required to change various parts of the ship during the voyage. We cannot find an absolute immutable basis for science, and our various discussions can only determine whether scientific statements are accepted by a more or less determinate number of scientists and other men. New ideas may be compared with those historically accepted by the sciences, but not with an unalterable standard of truth" [Neurath, 1983, p. 180–181]. With the program of encyclopedism, in which scientists and scholars from different countries participate, Neurath hopes to "exhibit the logical framework (Gerüst) of logical empiricism, which will be a mainstay (Bollwerk) of scientific empiricism in general as well as of the unity of science movement in the widest sense" [Ibid., p. 181]. Neurath's intention is to elaborate encyclopedias that "will become a living intellectual force growing out of a living need, and not a mausoleum or a herbarium."

The method of determining which scientific statements, hypotheses, and theories can rightly be called scientific, as quoted above by Neurath, is the method of discussion among scientists. There are a couple of problems with this aspect of Neurath's shipbuilding of science and his program of encyclopedism. First, as he already asserts, there cannot be any absolute, i.e., non-relativistic foundation for science and reason in this

regard. This assertion implies the negation of the option of stepping outside of a certain scientific circle to investigate, question, or doubt statements as is the position of Neurath's sailors. Although it can be acknowledged that it is plausible to give scientists the possibility to determine whether some specialistic questions from their own scientific area are to be found scientific and correct, it is quite another thing to give up the idea of the existence of the basis of science or to surrender deep philosophical ideas altogether to empirical and natural sciences. When we discuss the foundation of science, it should be in the sphere of philosophy itself which deals with the questions of reason, process and validation of argumentation, truth, belief, justification, judgment, etc., all as prerequisites for scientific investigation. Scientists are already using some philosophical concepts, and this is reflected in the constructions of various norms and universal scientific standards even though these standards can be formed among them. The notions of norm, value, standard, all fall in the category of philosophy of knowledge. Whether some scientific statements, especially the ones that claim to empirically explain some deep philosophical questions, are determined as reasonable and true, cannot simply be set by the agreement among scientists, as much as we appreciate their achievements. To claim that whatever scientific circle accepts and determines as reasonable is in fact reasonable and correct closes itself into a circular claim since we first must philosophically discuss what universal ideas of rationality, judgment, truth, etc. could be.

It is significant that Neurath ends one of his last publications, "Fundamentals of the Social Sciences" (1944), with the metaphor of a ship and claims that this metaphor is "our fate": "Imagine sailors who, far out at sea, transform the shape of their clumsy vessel from a more circular to a more fishlike one. They make use of some drifting timber, besides the timber of the old structure, to modify the skeleton and the hull of their vessel. But they cannot put the ship in the dock in order to start from scratch (…) That is our fate" [Neurath, 1944, p. 47].

Since there is no way to return to the dock, the sailors are forced to build a new ship out of the old one during storms and raging waves so that no dangerous leakage occurs. It is our destiny to build a new ship from the old one step by step, even if we disagree. We can no longer guess how the process of rebuilding our ship will proceed in the future.

It is interesting that Neurath does not necessarily strive for a consensus of scientific research, but claims in his essay "Universal Jargon and Terminology" (1941) that it is much more important to cooperate with each other even with different views, whereby the ship metaphor occurs again: "Finally we find ourselves all together in the same ship and are cooperating even when we think we are fighting one another" [Neurath, 1983, p. 229].

Willard Van Orman Quine has several times used Neurath's metaphor of a ship on the high seas with sailors who regularly repair and maintain

it without getting to the ship's dock to vividly deny the existence of first philosophy, i.e., firm metaphysical supports in philosophy. For Quine, philosophy and science are in the same boat, that is, they are in a circular relationship.

Quine first mentioned the metaphor of a ship at sea in his work "Word and Object" (1960), where he took a quote in German from Neurath's article „Protokollsätze" as the motto of the book: „*Wie Schiffer sind wir, die ihr Schiff auf offener See umbauen müssen, ohne es jemals in einem Dock zerlegen und aus besten Bestandteilen neu errichten zu können.*" Thereafter, he returns again and again to this favourite image of a ship at sea, where science and philosophy come together. Neurath is already quoted extensively in the first chapter "Language and Truth": "Neurath has likened science to a boat which, if we are to rebuild it, we must rebuild plank by plank while staying afloat in it. The philosopher and the scientist are in the same boat. If we improve our understanding of ordinary talk of physical things, it will not be by reducing that talk to a more familiar idiom; there is none. It will be by clarifying the connections, causal or otherwise, between ordinary talk of physical things and various further matters which in turn we grasp with help of ordinary talk of physical things" [Quine, 2013 (1960), p. 3]. Although Quine cited Neurath's article in *Erkenntnis* (1932–1933), he seemed to have been aware of Neurath's earlier formulation from *Anti-Spengler* (1921) as he specifies repairing a ship by replacing plank with plank as a metaphor for the methodology of the epistemic process. This is particularly evident in Quine's Festschrift "Words and Objections" (1969), edited by Davidson and Hintikka, in which Quine admits that he had always been fascinated by Neurath's step-by-step integration of experiential knowledge, which he vividly referred to as "Plank-by-Plank Methodology" (cf. [Davidson & Hintikka, 1969, p. 316]). This Neurath method conditioned his distancing from Carnap's dualism as well as his acceptance of the monistic naturalism advocated by Neurath.

Just as Neurath used the metaphor of a ship on the high seas in a different context of argumentation, Quine cites it with the desire to explain his connection between philosophy and the method of science and to emphasize his anti-metaphysical and anti-foundational standpoint in explaining how our epistemology works: "I see philosophy and science as in the same boat – a boat which, to refer to Neurath's figure as I so often do, we can rebuild only at sea while staying afloat in it. There is no external vantage point, no first philosophy" [Quine, 1969, p. 127]. Our scientific legacy consists of inherited forms of naturalism, as indicated in the article "Five Milestones of Empiricism", according to which scientists and philosopher of a naturalistic orientation always begin their research and argumentation within the framework of the inherited theory of the world. With all understanding and confidence in the existing scientific theories, the naturalist believes that some of them are probably incorrect and

accordingly tries to improve them: The naturalistic philosopher "tentatively believes all of it, but believes also that some unidentified portions are wrong. He tries to improve, clarify, and understand the system from within. He is the busy sailor adrift on Neurath's boat" [Quine, 1981, p. 72].

Metaphorically intoned assertion that philosophy and science are in the same boat expresses on the one hand Quines conviction that philosophy and science are in the precarious situation, i.e. landed on the open sea with no chance to finding a dock, on the other hand, both are with regard to some important questions, epistemologically equivalent. When Quine claims that "all scientific findings… are… as welcome for use in philosophy as elsewhere" [Quine, 1969, p. 127], he is referring to the importance of the scientific impetus for philosophy, and in itself this might suggest that the task of philosophy is merely to analyse and synthesise that impetus. However, if both scientists and philosophers from the environment of naturalism are acitve on Neurath's ship in rebuilding it with the intention to keep the ship afloat.

Quine recognized that philosophers and scientists are confronted with the problem of how to systematize our sense perceptions, whereby it should be noted that in the application of the argument there is no fixed pivot point in the sense of Archimedes' point. In this attempt to systematize, our past experiences also become the object of science. According to Quine, this was the reason why the representatives of the Vienna Circle chose physicalism without metaphysical foundations as their scientific model. It was characteristic of Neurath that he rejected a Cartesian dualism of mind and body and opted for monistic physicalism: "It was perhaps appreciation of this point that led Otto Neurath, Carnap's colleague in Vienna, to persuade Carnap to give up his methodological phenomenalism in favor of physicalism. Though Carnap had represented the phenomenalistic orientation of his 'rational reconstruction' as a pragmatic choice without metaphysical significance, Neurath probably saw it (and I do) as embracing a Cartesian dualism of mind and body, if not indeed a mentalistic monism. Physicalism, on the other hand, is materialism, bluntly monistic except for the abstract objects of mathematics" [Quine, 1995, p. 15].

Quine went one step further than Neurath by transferring his epistemic coherentism to semantic holism: "We are just extending the simile of Neurath's boat from science to include translation and interpretation" [Quine, 2013, p. xxviii]. Quine consistently insisted on examining judgements in the context of semantic holism as well as their factual component: "The *factual component must, if we* are *empiricists*, boil down to a range of confirmatory *experiences*" [Quine, 1961, p. 41], The important point here is that for Quine, knowledge of the meaning of words is a prerequisite for understanding a concrete perceptual sentence, which he calls semantic holism. For example, if we want to explain why someone sweated profusely during a lecture at an international conference, which

was noticed by everyone present in the hall, we can cite a whole range of circumstances as reasons, such as the fact that it was the first lecture for a young scientific newcomer in English, which is a foreign language to him, that he was probably very nervous in front of the auditorium, that he did not have time to prepare himself sufficiently, that it was very stuffy in the hall because the lecture was just before the break. Although the sensory receptors of all symposium participants were stimulated in the same way, it is not impossible that we may get different interpretations and explanations of why the lecturer sweated profusely during the lecture and discussion. It is commendable that Quine also leaves some room for interpretation in his naturalized epistemology, but it is problematic that he completely ignores the indispensable role of the judging subject, rich in collected experience, especially when it comes to more complex phenomena of the *interpretandum*. Quine claims that "all scientific findings… are… as welcome for use in philosophy as elsewhere" [1969, p. 127] and sees one of the most important tasks of philosophy in interpreting and synthesizing this scientific input.

We could criticize Neurath and Quine for not taking into account the practical knowledge and experience of seafarers when explaining the phenomenon of the cognitive experience of seafaring as declared empiricists, because their explanation of how science works using the metaphor of a ship with seafarers on the high seas who do not have the opportunity to anchor in a harbor seems pointless. Idle talk from the position of armchair philosophy about the maintenance of a ship on the high seas is a notorious example of bad metaphysical gibberish, especially considering that it comes from philosophers who are avowed empiricists and anti-metaphysicians. In any case, using a utopian metaphor to explain the real connection between philosophy and science in the form of empiricism is counterproductive and ineffective. Every sailor knows that a ship can only be serviced and repaired in a dock. Seafaring as a way of life, all the turbulence associated with this way of life, obviously remained unknown to Neurath, who spent most of his life in a continental, mountainous country, so it is fair to say that he used a very unusual metaphor not grounded in the practice of life, which, to make the paradox even greater, is meant to represent a naturalistic-empiricist concept of knowledge.

Had Neurath and Quine been at least somewhat familiar with the most famous shipwrecks in maritime history, they would not have been so naive about the quasi-coherent epistemological methodology of substituting plank by plank, which is certainly a clumsy example in philosophical jargon. Especially from representatives of philosophical naturalism, and proponents of the naturalized epistemology one should expect a little more sense for reality and the situation in the concrete living world, which is unfortunately not the case with the metaphor of the ship on the high seas which is to be serviced without arriving at the dock. Neurath and Quine

have used the metaphor of a ship without caring if the metaphor is applicable or not.

Quine is an abstract empiricist who is aware of the fact that in naturalized epistemology we rely on the totality of our knowledge, starting with geography, biology, medicine, chemistry and even mathematics and nuclear physics. This acquired and inherited knowledge is seen metaphorically by Quine as "a man-made fabric which impinges on experience only along the edges" [Quine, 1963, p. 42–43]. If in the epistemic approach of understanding and explaining reality it does not presuppose a metaphysical standpoint, in the sense of the Archimedean fixed point, I would like to emphasize against Quine that our experiential reference does not merely refer to a web of beliefs in which our cognizing is embedded, but also to network of justified judgments. This network becomes with time a constitutive part of our academic and scientific life-world. This is especially the case for sciences that are involved in our lives, such as medicine, economics, and technical sciences.

Our interconnectedness in our tradition of knowledge and science is made plausible by Quine since the publication of the essay "Mental Entities" (1953) with the help of Neurath's metaphor: "As scientists we accept provisionally our heritage from the dim past, with intermediate revisions by our more recent forehears; and then we continue to warp and revise. As Neurath has said, we are in the position of a mariner who must rebuild his ship plank by plank while continuing to stay afloat on the open sea."

If we start from Quine's assertion that our statements about the external world must be brought before "the tribunal of sense experience", "not individually, but only as a corporate body" [Quine, 1961, p. 41], then it is clear that Quine's comparison of philosophy and science to the ship on the open sea being repaired and rebuilt by industrious sailors is an example of comfortable armchair philosophizing that is incompatible with reality, experience and the practical world of life. Quine's use of the metaphor of ship on the open sea has primarily a message for epistemologists: "[My] position is a naturalistic one; I see philosophy not as an a priori propaedeutic or groundwork for science, but as continuous with science. I see philosophy and science in the same boat – a boat which, to revert to Neurath's figure as I so often do, we can rebuild only at sea while saying float in it. There is no external vantage point, no first philosophy" [Quine, 1969, p. 126–127]. As H. Putnam explains, there have been some problems with Quine's positivistic and naturalistic view of philosophy and philosophy of knowledge more specifically: "positivism produced a conception of rationality so narrow as to exclude the very activity of producing that conception" [Putnam, 1982, p. 18] Philosophical thoughts and many strings of argumentation about reason, knowledge, and judgment cannot simply be put aside since they are necessarily involved in the explanation of the concept of rationality. Positivism cannot

offer a satisfying conception of rationality because it rejects the path of discovering, analyzing, and defining the faculty of reason. The positivistic conception of rationality is only viewed in the pragmatic sense, it is reduced to the usefulness in predicting empirical observations and it strives to explain itself in the same manner – empirically.

Although Quine wrote in the conclusion of the essay "Two Dogmas of Empiricism" that he advocates a "more thorough pragmatism" [Quine, 1963, p. 46] because he rejects such a boundary between analytical and synthetic statements, his pragmatism remains merely nominal. Quine not only rejected the metaphysical foundation of epistemology, but also repudiated the dogma of reductionism, namely the belief that any meaningful statement is equivalent to a logical construct of concepts that relate to immediate experience. Instead, he advocates a different implication "effect is a shift toward *pragmatism*" [Quine, 1980, p. 20]. Such steps towards pragmatism are always welcome if they are not taken too far that even philosophy as a critical judgement of the interpretandum is threatened or even abolished as superfluous, as was the case with Neurath. The example of the metaphor of the ship with sailors on the open sea brings to mind again and again the objections that Faraday already made as to why in the philosophy of science, from the perspective of armchair philosophy, one arrives at such results and thought structures that are completely irrelevant to the practice of scientists and their scientific research.

Quine will certainly always be appreciated as an empirically oriented philosopher, which confirms van Fraassen's positive judgement of his naturalized empiricism: "To be quite candid, I share Quine's insistence that factual, descriptive theories should be allocated to the empirical sciences. Philosophers fall wrongly into the temptations of armchair science when they do not" [Fraassen, 2002, p. 240]. The question remains how much philosophy itself has gained or lost through such a view, i.e., philosophy of science as a discipline concerned with scientific theories and scientific practice. In an interview for the journal Distinctio, van Fraassen confirmed to me that the "eye of experience" (*tēs empeiras omma* Aristotle) of the judging subject is crucial for constructive empiricism: "Taking it up again in *The Empirical Stance*, I tried to show how there were clues there for a non-foundationalist epistemology. But what you ask here about hermeneutics and contextuality of meaning is now more important. Without using the word 'hermeneutics' I find that we are engaged in this form of creative interpretation at many points in philosophical discussions of science. Even more so today, now that scientific practice, as opposed to theorizing, is taking much of the limelight" [*Distinctio*, 1-1-2022, p. 15].

Neurath's boat is a continuation of the metaphor of being on the sea in the ship from Plato to Plutarch and suggests a situation of philosophical recherche and research. Unlike Neurath and Quine, such metaphorical narratives have a relation to reality. Charles S. Peirce uses Plato's ship

metaphor as a constitution of the text in an unknown territory: "A book might be written to signalize all the most important of these guiding principles of reasoning… Let a man venture into an unfamiliar field, or where his results are not continually checked by experience, and… he is like a ship on the open sea, with no one on board who understands the rules of navigation. And in such a case some general study of the guiding principles of reasoning would be sure to be found useful" [Peirce, 1877 (1970), p. 65].

It is significant that the eminent representative of the Erlangen School, Paul Lorenzen, used a similar metaphor of a ship at sea in his critique of scientism and logical empiricism, without mentioning Neurath, Quine and Peirce, to illustrate our interconnectedness in the scientific and semantic tradition. He compared the gradual shaping of the language of professionalism to the building of a ship at sea: "If we look at natural language as a ship at sea, we can represent our situation as follows: if there is no land we can reach, someone had to build the ship on the open sea, not us, but our ancestors. They knew how to swim, and they first built a raft from the wood they had and then improved it further, so that today it has become a comfortable boat, and we no longer have the courage to jump into the water and start again. To understand the method of our thinking, we have to put ourselves in a situation without a boat, that is, without language, and reconstruct the actions with which we – swimming in the sea of life – could have built a raft or a ship" [Lorenzen, 1968, p. 28–29].

Similar to Neurath and Quine, Lorenzen warns against the lack of metaphysical anchoring of heuristic science research, but unlike them, he does not remain strictly within the empiricist epistemological framework, but seeks a bridge between science to practice and the lifeworld, as practiced in the hermeneutic and phenomenological tradition of the 20th century. In doing so, he draws on "Ditlhey, Husserl, Misch, and Heidegger, who have clearly shown what it means that thinking and life must start from the practical life situation. All opinion is an exaltation of what is done in practical life. The philosopher will no longer go astray – as in modern times with Descartes and Locke – if it was thought that consciousness comes to knowledge of the world only through sensations, visions and rational thought. On the contrary, the world is already given to the philosopher as something existing or already present. Philosophy gained a new immediacy" [Lorenzen, 1968, p. 26]. It is interesting that Lorenzen, as a prominent philosopher of mathematics, showed great interest in the phenomenon of the lifeworld and life-practice and saw in it an essential contribution from which science and philosophy of science could gain positive experience.

T. Williamson also uses in his book *Philosophy of Philosophy* the metaphor of being on a ship to describe the process of philosophizing, but he is much more careful than Quine or Neurath: "Our beliefs are what

we start from, the boat we find ourselves in. Even if we can progressively replace them, we cannot distance ourselves from all of them at once, for we have nowhere else to stand" [Williamson, 2007, p. 242].

Finally, we ask Huw Price whether it makes sense to perform such distancing from traditional epistemology and metaphysics and to offer a narrow way of reasoning: "Quine himself has sunk the metaphysicians' traditional boat, and left all of us, scientists and ontologists, clinging to Neurath's Raft" [Price, 2011, p. 286].

Obviously, traditional epistemology should have been given more respect and understanding than Neurath and Quine did. One of the most influential epistemologists of the 20th century, Roderick Chisholm, became famous for saying that the most important epistemological questions had already been largely settled in ancient philosophy: "Most of the problems and issues constituting the 'theory of knowledge' were discussed in detail by Plato and Aristotle and by the Greek skeptics. There is some justification, I am afraid, for saying that the subject has made very little progress in the past two thousand years" [Chisholm, 1982, p. 109]. Reducing the epistemological model to Neurath's boat of naturalism is not the appropriate solution for the philosophy of knowledge and understanding.

The philosophical position of linking philosophy with science is the continuation of the tradition from Kant to representatives of the Vienna Circle. Quine sees philosophy as being in continuity with science, but he rejects the traditional, a priori methodology of philosophy and science and claims that both must face the "tribunal of experience". He can legitimately be called 'eliminationist' since he attempted to eliminate traditional epistemic concepts, such as justification, with new empirical notions like 'evidence' [Putnam, 1982, p. 19]. The metaphor of judgment in philosophy was also a favorite theme of Immanuel Kant, who wanted the study of nature to follow the example of the aged and knowledgeable judge (eines bestalten Richters) [Kant, 1878, BXIII; AA3, 10]. We miss in the naturalized epistemology of Quine and Neurath the reflective judgment of the cognizing subject, the judging expert who makes judgments (cf. [Zovko, 2018]).

Not only does Quine neglect the role of judging subject as something extremely important in acquiring scientific knowledge, but he also looks at synthesizing and systematizing knowledge as processes completely disconnected from philosophy. It is however dubious whether questions of explications of these rational processes could be answered by sciences such as neurobiology, psychology, physics, etc., or are poorly reduced.

Through the historical development of sciences, there was always an implicit pursuit to systematize empirical manifold, varieties of scientific discoveries, examples, and results of experiments into a coherent unity. Even anomalies themselves are defined in opposition to scientific standardized norms and following expectations. This scientific aim towards systematization is a phenomenon that Kant treats as essential to human

reasoning at several places in his first and third Critique (*KrV*, A642/B670 – A704/B732; *KU* 20:203, 205, 209, 214, 219). This leading thought in scientific synthesis, systematic accumulation, organization of knowledge, and formation of each scientific theory is for Kant one of the principles of reason, the so-called *regulative ideal of systematicity*. The 'law of reason' to seek unity in the manner of systematization is "necessary, since without it we would have no reason and without that, no coherent use of the understanding, and, lacking that, no sufficient mark of empirical truth" (*KrV* A651/B679). It is very important to highlight that this rational drive or tendency to place every newly discovered individual natural entity (from molecule to complex organism) into some already known domain is the interest of reason itself. Hence, it is of scientific interest too. Still today natural sciences use and apply principles of homogeneity, specification, and continuity, all acknowledged by Kant to be indispensable principles of reason, but not merely as methodological devices (*KrV* A6S8/B686, A661/B689). Systematization serves not simply as economically appropriate or practical regarding the organization of theories into higher systems of theories, but it is a crucial human endeavor of understanding empirical surroundings in everyday life. The border of scientific and everyday reasoning, argumentation, and judging is not as harsh as it may seem. Both are in serious need of philosophy to elucidate these concepts. It should, however, be noted that the idea of unity and the possibility of systematization for Kant is not a constitutive principle, but only regulative which means it serves "as a ground for the harmonious use of reason" (*KrV* A694/B722). Systematic conceptualization of nature is not merely a part of our conceptual scheme in the form of logical principles and it is not constructed regardless of the objects in nature. Nature itself has to be amenable to this ideal of systematization, claims Kant. Since "experience never gives an example of perfect systematic unity" (*KrV* A681/B709), the idea of systematization, among others, is nevertheless a precondition for understanding nature, it gives us "a clue to guide us in the study of natural things" (*KU* 379). Kant's argumentation for the importance of the idea of unity and systematicity in empirical investigations as the regulative ideal of reason is something that Quine would all together negate or devalue and hence deprive philosophers of staying on the same ship as natural scientists and empiricists. Nevertheless, natural and social sciences still nowadays apply principles of unification, and systematization and have in front of them a regulative ideal that guides them toward a better understanding of the world.

It is abundantly clear that Quine rejected Kant's transcendental subject as a principle of cognition and regulative ideal of systematicity in the science of nature because he did not allow for a metaphysical foundation in his naturalized epistemology. At least, his statements regarding human consciousness are more cautious. "I have been accused of denying consciousness, but I am not conscious of having done so. Consciousness

is to me a mystery and not one to be dismissed. We know what it is like to be conscious, but not how to put it into satisfactory scientific terms. Whatever it precisely may be, consciousness is a state of the body, a state of nerves" [Quine, 1987, p. 132–133; cf. Zovko, 2021].

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