„Carnap and the Rationality of Theory Choice”, Brendel Mátyás, handout

"Thus, Putnam, Kuhn, and others are incorrect when they claim that according to logical empiricism the scientific method exhausts rationality, at least in so far as Carnap's philosophy is concerned." (Irzik, „Changing conceptions of Rationality from Logical Empiricism to Postpositivism”, p. 335).

"So far, our interpretation agree; but then Friedman adds that the choice between different systems of rules and logics is purely conventional, governed by 'pragmatic - as opposed to rational – criteria", meaning that a pragmatic choice cannot be rational." (Irzik, „Changing conceptions of Rationality from Logical Empiricism to Postpositivism”, p. 333)

"… the adoption of a linguistic framework is instrumentally rational if it serves a predetermined goal efficiently." (Irzik, „Changing conceptions of Rationality from Logical Empiricism to Postpositivism”, p. 335.)

“And the reason for this have nothing to do with doubts about the incontrovertible predicative success of the scientific enterprise – they do not call into question, that is the instrumental rationality of this enterprise. What has been called in question, rather, is what Jürgen Habermas calls communicative rationality." (Friedman, "On the Sociology of Scientific Knowledge and its Philosophical Agenda", pp. 184.)

C1: "The acceptance or rejection of abstract linguistic forms, just as the acceptance or rejection of any other linguistic forms in any branch of science, will finally be decided by their efficiency as instruments, the ratio of the results achieved to the amount of complexity of the efforts required. (Carnap, Empiricism, Semantics, and Ontology, p. 221)

C2: "… a change in language, and a mere change in or addition of, a truth-value ascribed to an indeterminate statement. … A change of the first kind constitutes a radical alteration, sometimes a revolution, and it only occurs at certain historically decisive points in the development of science. … A change of the first kind constitutes, strictly speaking, a transition from a language Ln to a new language Ln+1. (Carnap in Schilpp 1963, page 921).

C3: "Whether in the construction of a language S we formulate only L-rules or include also P-rules, and, if so, to what extent, is not a logico-philosophical problem, but a matter of convention and hence, at most, a question of expedience. " (Carnap Syntax, p. 180)

C4: "For everyone who takes the point of view of physicalism, it follows that our Language II forms a complete syntactical framework for science." (Syntax, p. 151)

•"It may recalled that, in our previous discussion of the flat world, we imagined two physicists who held two different theories about the nature of the world. It became apparent that these two theories were really equivalent, differing only in that they were two different ways of describing the same totality of facts. (…) One description, which we will call T, is non-Euclidean. The other, T is Euclidean. If the language of T, the non-Euclidean language is chosen, the laws of mechanics and optics remain the same as in pre-Einsteinian physics. " (Carnap, “An introduction to the Philosophy of Science ”, p.153.)

"On the other hand, if we are dealing with the space of our universe, a space we cannot observe as something embedded in the space of a universe of higher dimension, then it is meaningless to ask whether space is non-Euclidean or whether our laws have to be modified to preserve Euclidean geometry. The two theories are merely two descriptions of the same facts. We can call them equivalent expression because we make exactly the same prediction about observable events in both theories". (Carnap, “An introduction to the Philosophy of Science” , p. 150.)

Cohen believes that my so-called principle of tolerance in the logical syntax contains a 'doctrine of conventionally chosen basic truth'. But this is not the case. The principle referred only to the free choice of the structure of the language, and not to the content of synthetic sentences. I emphasized the non-conventional, objective component in the knowledge of facts, (…)" (Carnap in Schilpp 1991., p. 864.)

"The first measurement of these displacements were made by Finlay Freundlich, in the Einstein Tower in Postdam, (..) the tests proved to be a dramatic confirmation of Einstein's theory". (Carnap, “An introduction to the Philosophy of Science”, p. 159.)

"I agree that there cannot be an inductive machine if the purpose of the machine is to invent new theories. I believe, however, that there can be an inductive machine with much more modest aim. Given certain observations e and hypothesis h (…), then I believe it is in many cases possible to determine, by mechanical procedures, the logical probability, or degree of confirmation, of h on the basis of e." (Carnap “An introduction to the Philosophy of Science ”, p. 34)

"'Among the given hypotheses h1, h2, etc., I chose the hypothesis h1,' it would be better to say: 'I assign to the hypothesis h1 a high probability' (and if in more exact terms: 'the probability with the numeric value h1), 'to the hypothesis h2 a smaller probability' (and again if possible: 'the numerical value q2),and so on. For X to pick up one of the hypotheses and to declare that he accepts it would give only a crude indication of the knowledge that X possesses with respect to the matter in question." (Carnap, “Probability and Content Measure ”)