Lambert, Johann Heinrich (1728–1777)

A philosopher, physicist, astronomer, and mathematician, member of the Munich
Academy (1759) and the Berlin Academy (1764), and Prussian Surveyor of Public
Works, Lambert developed his "Semiotics" in the framework of his *New Organon*
(1764) where, in addition to the "Dianoiology" (doctrine of the laws of thinking), the
"Alethiology" (doctrine of *truth), and the "*Phenomenology" (doctrine of appear-
ance), a sign system is presented under the ideal of algebra. Semiotics must reconstruct
*signs as a basis of knowledge and logic, and it applies "without distinction to philol-
ogy, criticism, linguistics (grammar), and *philosophy." The "tyrant" linguistic usage,
which "led to a thousand anomalies and divergences from general rules" [1764:§1; all
cited §§ refer to "Semiotics," translated by C.H.] must be corrected and made precise,
since it provides the basis for the genesis of concepts. Concepts have to be connected pre-
cisely with words, whose definitions shall not run contrary to it (1764:§§350–51) — a
procedure having to conform to "hermeneutic approval" (1764:§302). Thus, Lambert's
semiotics is placed between the ideals of the *mathesis universalis* and *hermeneutics
(Hubig 1979a).

The ideal of *mathesis universalis* is realized in postulating an isomorphism between
the system of things and the system of signs (1764:§23). It is through this isomorphism
that operations with signs accomplish what otherwise would have to be resolved by
concepts, e.g., that it appears "as if the object itself lay before one's eyes" (1764:§24).

Two classes of signs are distinguished: characteristic signs denote concepts symboli-
cally while natural signs have a metaphysical function, referring directly to matter as
experienced through sensations. For a concept of an object to be constituted, signs are
necessary so as to recall non–persistent sensations to memory. "Symbolic knowledge is
a necessary auxiliary for thinking" (1764:§12). Scientific knowledge requires a "double
*translation": matter is translated into sensations (natural signs) which are in turn trans-
lated into a language of symbols. The connection between these two sign levels is
accomplished by a theory. Signs are more complete the more implicit *meaning is made
explicit in them. This is achieved, for example, in the presentation of logical relations by
topological relations between lines that represent *terms. In this way the relation of
signs among themselves can be manifested (Wolters 1980:ch.3).

The classification of signs depends on the ideal of clarity. As "scientific signs" Lambert takes into consideration only the signs of choreography, of compass cards, the presentations of Aristotelian syllogisms as developed by Lambert, angle signs, signs for genealogical trees, the system of numbers, and algebra itself (Nef 1976a). He distinguishes signs by which matter is directly represented from those functioning as mere imitations of sensations and images of sensations. The words of natural languages are not complete signs, because there is no isomorphism between them and objects. *Language therefore has only a "hypothetical" character (1764:§329), and its hypotheses can only be confirmed by consideration of its subject matter.   C.H.