Communities of Logical Practice

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Deformable Modus Ponens

As a rule, if $P$, then $Q$.
$P$.
It is not the case that there is an exception to the rule that if $P$, then $Q$.
Therefore, $Q$.


... and Seventeenth Century Jesuits

Almost certainly the source of [Sacccheri’s] inspiration was [an annotation in] the widely read edition of Euclid published in 1574 by Clavius . . . And his attention may have been directed to the relevant scholium by his Jesuit teachers. For Clavius himself had belonged to the Society of Jesus, and it seems that the argument on which he wrote his commentary had a vogue among the members in the seventeenth century as the consequential mirabilis


Etienne Wenger’s Communities of Practice

The term practice . . . denotes a set of socially defined ways of doing things in a specific domain: a set of common approaches and shared standards that create a basis for action, communication, problem solving, performance and accountability. These communal resources include a variety of knowledge types: cases and stories, theories, rules, frameworks, models, principles, tools, experts, articles, lessons learned, best practices, and heuristics. They include both the tacit and the explicit aspects of the community’s knowledge. . . . It also embodies a certain way of behaving, a perspective on problems and ideas, a thinking style, and even in many cases an ethical stance. In this sense, a practice is a sort of mini-culture that binds the community together.


Systems of Logic

John Corcoran’s Threefold Classification:

- logistic systems classified by their logical truths;
- consequence systems classified by the arguments they validate;
- deductive systems classified by the proofs they admit.


Shared adherence to a logical system in any of these senses is neither necessary nor sufficient for community of logical practice

Consequentia Mirabilis . . .

If $P$ is false, then $P$ is true.
Therefore, $P$ is true.

Gerolamo Saccheri: ‘a very beautiful way of proving these same truths without any assumption’

Gino Cattano: ‘the most wonderful thing that has been discovered since the beginning of the world’

Euclid & Contraposition

‘Hypothesis. Let there be any number of propositions or assertions—three for instance, $X$, $Y$, and $Z$—of which it is the property that one or the other must be true, and one only. Let there be three other propositions, $P$, $Q$, and $R$ of which it is also the property that one and one only, must be true. Let it be a connection of these assertions: when $X$ is true, $P$ is true, when $Y$ is true, $Q$ is true, when $Z$ is true, $R$ is true.

Consequent: then it follows that, when $P$ is true, $X$ is true, when $Q$ is true, $Y$ is true, when $R$ is true, $Z$ is true."


To apply this to the case before us, let us denote the sides of the triangle $ABC$ by $a$, $b$, $c$ and the angles opposite to these sides by $A$, $B$, $C$ respectively, and suppose that $a$ is the base.

Then we have the three propositions,

- when $b$ is equal to $c$, $B$ is equal to $C$;
- when $b$ is less than $c$, $B$ is less than $C$;
- and it follows logically that, when $b$ is equal to $C$, $B$ is equal to $c$;

and this is the case because the angle at $B$ is obtuse.

COMMON NOTION 4.

Kαὶ τὰ ἐφαρμοσμένα ἐπὶ ἄλλα έργα ἰδίως ἐτόνοι

Things which coincide with one another are equal to one another.


One figure may be superposed on another so that its vertices and edges perfectly coincide.

Therefore, the two figures are identical.


I seem to be running down logic. I do not mean to. But there is logic and logic. There is narrow-minded logic confined within narrow limits, rather conceived, and professing to be very exact, with absolutely certain premises. And there is a broader sort of logic, more common-sensical, wider in its premises, with less pretension to exactness, and more allowance for human error, and more room for growth.


All and only witches have witchcraft-substance.

Witchcraft-substance is always inherited by the same-sexed children of a witch.

The Zande clan is a group of persons related biologically to one another through the male line.

Man A of clan C is a witch.

Every man in clan C is a witch.


A satisfactory account of a community of logical practice should itemize the schemes employed within the practice, but it should also:

- track frequency of use for the schemes (including those omitted altogether), paying particular attention to schemes whose use is disproportionate to that in comparable practices;
- record information, explicit or tacit, about preferences amongst the community with regard to specific schemes;
- relate each scheme to the context(s) of dialogue employed by the community;
- where possible, observe how the practice changes with time.