APPENDIX A

EXCERPT FROM A GENERAL DISCUSSION ON COORDINATES AND TIME

GUINOT: We should establish some joint group to study the matter and make a proposal to the responsible agencies.

MURRAY: The whole problem must be discussed from a relativistic viewpoint, in particular the problem of the Astronomical Unit. This is a heritage of the past: if you look at it you can see that it is a meaningless concept unless one specifies exactly the relativistic coordinate system to which it refers. What we need is a complete rethinking of our concepts of reference constants, reference system and everything connected with it. I agree with the idea of a working group to study the matter.

EICHHORN: It strikes me as somewhat disorderly that we are using numerical specifications to define fundamental concepts, numbers which we are constantly revising, and thereby redefining things which have a well-understood conceptual meaning. I think it would be cleaner, and easier for those in other branches of science to communicate with us, if our definitions were more tied to the laws and postulates from which we derive the various theories. Students, in particular, are confused by being told that there is a difference between, for example, the FK4 equinox and the dynamical equinox. The question then arises which is the "real" equinox, and whether this concept is at all meaningful. This does not mean that the tool which we have in the rotation of the Earth becomes dispensable for the determination of the coordinate system, but we must start to distinguish between definitions and specifications. These matters do require discussion.

KOVALEVSKY: Conceptually we always speak about "inertial". The meaning of this concept in physics is not so easy to define, however, if you really want to go into concepts you should pass over the simple geometric specification in terms of external galaxies and the determination of their positions by means of VLBI but go into dynamics. I think this proposal is very timely.

JEFFERYS: There is a very bad historical precedent. At the begining of this century, for short periods in some geographic areas, Ohm's law was invalid by definition because the definitions of the quantities involved were inconsistent.

WESTERHOUT: I suggest that this group urge the Presidents of Commissions 24, 7 and 8 to get together this afternoon and decide on a course of action, e.g., a thorough discussion of these matters at the next IAU meeting and discuss with the Presidents of the other concerned Commissions. (This was in the form of a motion and passed).

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