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## „GALILEO: FOR COPERNICANISM AND FOR THE CHURCH”

As of the year 2000 Fantoli's book on Galileo has been published in English, French and Russian, in addition to the original Italian. It is a pleasure now to have the Polish edition thanks to the initiative of Michael Heller and the publishing house, BIBLOS, who promoted it, and especially to Tadeusz Sierotowicz, who translated it<sup>1</sup>.

Since I first read this book I have arduously promoted it, since it is clearly the most detailed and judiciously interpreted treatment of the Galileo affair in print. In my judgement it provides the most objective presentation of what actually happened, devoid of ideological infiltrations. The original Italian edition was published in 1993. This Polish edition incorporates all of the author's additional research as published in a Second Revised and Expanded English Edition, published in 1996. What it does not include is the author's additional research since 1996, especially that which concerns the conclusions of the Galileo Commission constituted by John Paul II in 1981 and whose work was concluded in 1992, at about the same time as the appearance of the original edition of Fantoli's *Galileo*, and after it

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\*UWAGA: Tekst został zrekonstruowany przy pomocy środków automatycznych; możliwe są więc pewne błędy, których sygnalizacja jest mile widziana (obi@opoka.org). Tekst elektroniczny posiada odrębną numerację stron.

<sup>1</sup>See the Appendix for a list of the various language editions.

had gone to press<sup>2</sup>. So, as a supplement to the book which is being presented today, I would like to summarize Fantoli's further research on the conclusions of the Galileo Commission<sup>3</sup>.

The Galileo Commission was constituted on behalf of John Paul II by a letter of the Cardinal Secretary of State of 3 July 1981 to the members of the Commission. On 31 October 1992, John Paul II in a solemn audience before the Pontifical Academy of Sciences brought to a closure the work of the Commission. The Pope's address was preceded by that of Cardinal Paul Poupard who had been invited by the Cardinal Secretary of State by letter of 4 May 1990 to coordinate the final stages of the work of the Commission. An analysis of these two addresses reveals some inadequacies. In the discourse prepared for the Pope, the Galileo affair is described as a „tragic mutual incomprehension” and the incomprehension is specified by what can be identified as the following four principal conclusions of the two discourses: (1) Galileo is said not to have understood that, at that time, Copernicanism was only „hypothetical” and that he did not have scientific proofs for it; thus he betrayed the very methods of modern science of which he was a founder; (2) it is further claimed that „theologians” were not able, at that time, to correctly understand Scripture; (3) Cardinal Robert Bellarmine is said to have understood what was „really at stake”; (4) when scientific proofs for Copernicanism became known, the Church hastened to accept Copernicanism and to implicitly admit it erred in condemning it. It will not be possible to discuss all four conclusions. I would like to make some selective comments about numbers 1 and 3.

It is said that Galileo did not understand the difference between science and philosophy. He would not accept Copernicanism as „hypothetical” and, thus, did not understand science, even though he was

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<sup>2</sup>This Polish edition also incorporates Fantoli's additional research published in a French edition in 2001, but his treatment there of the Galileo Commission's conclusions is not complete.

<sup>3</sup>For a fuller exposition see A. Fantoli, *Galileo and the Catholic Church: A Critique of the „Closure” of the Galileo Commission's Work*, trans. G.V. Coyne (Vatican: Vatican Observatory Publications, 2002), 35 pp.

one of the founders of it. Much could be said about this characterization of the scientific method and Galileo's use of it. I limit myself to discussing the ambiguity involved in the use of the word „hypothesis.” There are two distinctly different uses of the word in this context: a purely mathematical expedient to predict celestial events or an attempt to understand the true nature of the heavens. This important difference in meaning must be seen against the history of the word's use from antiquity through medieval Christianity to the time of Copernicus through to Galileo. The best historical example of this is, of course, the case of Osiander. In his attempt to save Copernicus, Osiander, unbeknownst to the author and contrary to the latter's intent, wrote his famous preface to advise the reader that the *De Revolutionibus* was intended, in the tradition of medieval astronomy, only in the former sense, as a mathematical expedient. There is no doubt that Galileo understood his own investigations to be an attempt to understand the true nature of things. It is well known that he preferred to be known as a philosopher of nature rather than as a mathematician. It can be debated as to whether Galileo himself was ever convinced that he had irrefutable proofs for Copernicanism (involved in that debate would be the very meaning of „proof” for him and for us) but it cannot be denied that he sought evidence to show that Copernicanism was really true and not just a mathematical expedient. Galileo rejected the claim that Copernicanism was a hypothesis in the former sense. He sought to find experimental verification of it in the latter sense. He can certainly not be accused of betraying the very method „of which he was the inspired founder.”

The Commission's report claims that, in contrast to „most” theologians, Bellarmine had seen what was truly at stake in the debate, since he personally felt that, in the face of possible scientific proofs that the earth orbited around the sun, one should „interpret with great circumspection” every biblical passage which seems to affirm that the earth is immobile and „say that we do not understand rather than affirm that what has been demonstrated is false.” This view of Bellarmine comes from his *Letter to Foscarini* and the Commission draws

two conclusions from the *Letter* which appear to make Bellarmine both the most open-minded of theologians and respectful of science. One must, according to this interpretation of Bellarmine, be circumspect in interpreting Scriptural statements about natural phenomena in the face of possible scientific proofs contrary to the interpretation. If such proofs are forthcoming, one must reinterpret Scripture. Note that the epistemic primacy here is given to Scripture. Since Galileo had no irrefutable proofs of Copernicanism, the current interpretation of Scripture by theologians, including Bellarmine, should remain, but always subject to reinterpretation. Is this a correct presentation of Bellarmine's position?

Bellarmino is interpreted as saying: „As long as there are no proofs for the movement of the Earth about the Sun, it is necessary to be cautious in interpreting Scripture.” What Bellarmine actually says is: „Should proofs be had, then we must go back and reinterpret Scripture.” The difference is: Bellarmine did not say: „Theologians should be cautious *now* in interpreting Scripture in expectation that proofs for Copernicanism might appear” but rather: „If a proof *were* to appear, then *on that day in the future* theologians would have to be cautious in interpreting Scripture.”

Furthermore, this interpretation of Bellarmine's position is based on a partial and selective reading of the *Letter to Foscarini*. In the passage immediately preceding the one just cited, Bellarmine had taken a very restrictive position by stating that geocentrism is a matter of faith, since if it is not a matter of faith „as regards the topic”, it is a matter of faith „as regards the speaker.” Clearly if geocentrism is a matter of faith „as regards the speaker,” („speaker” being understood as the inspirer of Scripture, the Holy Spirit) then openness to scientific results and circumspection in interpreting Scripture are simply ploys. They lead nowhere. At the end of the *Letter to Foscarini* Bellarmine appears to exclude any possibility of a proof by stating that our senses clearly show us that the sun moves and that the earth stands still, just as someone on a ship „sees clearly” that it is the ship that is moving and not the shoreline. From the concluding sentences of the *Letter* it

is clear that Bellarmine was convinced that there could be no demonstration of Copernicanism. A further indication of this conviction on Bellarmine's part is that he supported the Decree of the Congregation of the Index which was aimed at excluding any reconciliation of Copernicanism with Scripture. If he truly believed that there might be a demonstration of Copernicanism, would he not have recommended waiting and not taking a stand, a position embraced at that time, it appears, by Cardinals Barberini and Caetani? And why did he agree to deliver the injunction to Galileo in 1616? This injunction prohibited Galileo from pursuing his research as regards Copernicanism. Galileo was forbidden to seek precisely those scientific demonstrations which, according to Bellarmine, would have driven theologians back to reinterpret Scripture.

Final Remarks: At the founding of the Galileo Commission and throughout its proceedings the case of Galileo is often referred to as a „myth” which arose from „a tragic mutual incomprehension.” I have discussed a few of the continuing incomprehensions on the part of the Church. Does the „myth” continue? Myths are founded in concrete happenings. In the Galileo case the historical facts are that further research into the Copernican system was forbidden by the decrees of 1616 and then condemned in 1633 by official organs of the Church with the approbation of the reigning Pontiffs. This is what is at the source of the „myth” of Galileo and not a „tragic mutual incomprehension.” Galileo was a renowned world scientist. The publication of his *Sidereus Nuncius* (the Starry Message) established his role as a pioneer of modern science. He had provoked anew the Copernican-Ptolemaic controversy. Observational evidence was increasingly overturning Aristotelian natural philosophy, which was the foundation of geocentrism. Even if Copernicanism in the end proved to be wrong, the scientific evidence had to be pursued. A renowned scientist, such as Galileo, in those circumstances should have been allowed to continue his research. He was forbidden to do so by official declarations of the Church. There lies the tragedy. Until that tragedy is faced with the rigor of historical scholarship, the „myth” is almost certain to remain.

**APPENDIX****LANGUAGE EDITIONS OF FANTOLI'S GALILEO**

GALILEO: PER IL COPERNICANESIMO E PER LA CHIESA (Vatican: Vatican Observatory Publications, 1993) Original Italian Edition, 447 pp.

GALILEO: PER IL COPERNICANESIMO E PER LA CHIESA (Vatican: Vatican Observatory Publications, 1997) 2<sup>nd</sup> Revised Italian Edition, 537 pp.

GALILEO: FOR COPERNICANISM AND FOR THE CHURCH (Vatican: Vatican Observatory Publications, 1996) 2<sup>nd</sup> Revised English Edition, translated by G.V. Coyne, S.J., 567 pp.

GALILEO: FOR COPERNICANISM AND FOR THE CHURCH (Vatican: Vatican Observatory Publications, 2003) 3<sup>rd</sup> Revised English Edition, translated by G.V. Coyne, S.J., 617 pp., to be published in Spring 2003.

GALILÉE : POUR COPERNIC ET POUR L'ÉGLISE (Arpajon, France: Médiaspaul, 2001) 1st French Edition, translated by F. Evain, S.J., 577 pp.

RUSSIAN EDITION (Moscow: MIK Publishing House, 1999) translated by A. Kalinin, 423 pp.

GALILEUSZ: PO STRONIE KOPERNIKANIZMU I PO STRONIE KOŚCIOŁA (Tarnów, Poland: Biblos, 2002) 1st Polish Edition, translated by Tadeusz Sierotowicz, 508 pp.

***„GALILEUSZ: PO STRONIE KOPERNIKANIZMU I PO STRONIE KOŚCIOŁA” — STRESZCZENIE***

W swoim przemówieniu do Papieskiej Akademii Nauk, dnia 31 października 1992 roku Jan Paweł II nazwał sprawę Galileusza „mitem, w którym przedstawiany obraz wydarzeń jest odległy od rzeczywistości”. Zastanawiając się nad tym „mitem”, autor artykułu ogranicza się tylko do najnowszego biegu wydarzeń.

10 listopada 1979 roku z okazji 100-nej rocznicy urodzin Einsteina, w swoim przemówieniu do Papieskiej Akademii Nauk Jan Pa-

węł II nawiązał do sprawy Galileusza. Mówił wówczas, że „Galileusz musiał wiele wycierpieć [...] zarówno z rąk jednostek, jak i instytucji wewnątrz Kościoła”. Przemówienie to zostało odebrane przez światową opinię jako publiczne przyznanie się Kościoła do winy popełnionej względem Galileusza i jego rehabilitację. Naturalną konsekwencją tego wystąpienia było powołanie przez papieża w 1981 roku tzw. Komisji do Studiów nad Sprawą Galileusza. Zamknięcie prac tej Komisji nastąpiło w 1992 roku podczas uroczystej audyencji udzielonej członkom Papieskiej Akademii Nauk.

W przemówieniu przygotowanym dla papieża na zamknięcie prac Komisji sprawa Galileusza została nazwana „tragicznym wzajemnym nieporozumieniem”, a „nieporozumienie” to zostało sprowadzone do następujących punktów: (1) Galileusz nie rozumiał, że w jego czasach kopernikanizm był tylko „hipotezą” i że nie istniały naukowe dowody tej hipotezy. (2) Ówczesni teologowie nie byli w stanie właściwie zinterpretować odnośnych fragmentów biblijnych. (3) Jedynie kardynał Robert Bellarmin właściwie ocenił istotę problemu. (4) Z chwilą gdy naukowe dowody na rzecz kopernikanizmu stały się osiągalne, Kościół wycofał się ze swego dotychczasowego stanowiska.

Wszystkie te punkty opierają się na bardzo jednostronnej interpretacji historii i są krokiem wstecz w porównaniu z poprzednimi wystąpieniami papieża. Co więc wydarzyło się w Rzymie pomiędzy rokiem 1979 a rokiem 1992? Wszystko wskazuje na to, że napięcie pomiędzy stylem myślenia ludzi Kościoła i ludzi nauki istnieje nadal. Co należy jeszcze uczynić, aby „sprawa Galileusza” nie miała swojego dalszego ciągu?