

**THE WTO MODEL AS A GUIDE FOR MULTILATERAL GOVERNANCE
AMONG SPACEFARING NATIONS, AND LESSONS FOR GLOBAL SPACE
COOPERATION, EXPLORATION AND PUBLIC GOOD:
A PROPOSAL FOR AN INTERNATIONAL FRAMEWORK TO SUSTAIN
MULTILATERAL GOVERNANCE OF SPACE COOPERATION AND
EXPLORATION.**

WTO模式作为航天国家多边治理的指导原则，以及全球空间合作、开发和公共产品的
经验

WTO mó shì zuò wèi háng tiān guó jiā duō biān zhì lǐ de zhǐ dǎo yuán
zé, yǐ jí quán qiú kōng jiān hé zuò kāi fā hé gōng gòng chǎn pǐn de jīng
yàn.

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Yì Jīng, hexagram 53: "development should proceed step by step against precipitate actions"

This paper represents personal views of the author. The dissemination of ideas expressed in this paper, with authenticated indication of origin, is most welcome. This paper projects a few ideas for collective reflection and debate.

天 问

曰 遂古之初 谁传道之
上下未形 何由考之
冥昭瞢暗 谁能极之
冯翼惟象 何以识之
明明暗暗 惟时何为
阴阳三合 何本何化
圜则九重 孰营度之
惟兹何功 孰初作之
斡维焉系 天极焉加
八柱何当 东南何亏
九天之际 安放安属
隅隈多有 谁知其数
天何所沓 十二焉分
日月安属 列星安陈
出于汤谷 次于蒙汜
自明及晦 所行几里
夜光所德 死则又育
厥利维何 而顾菟在腹
女岐无合 夫焉取九子
伯强何处 惠气安在
何阖而晦 何开而明
角宿未旦 曜灵安藏

"**Tiān Wèn**" poem, by **Qŭ Yuán**
(ca. 340 BCE – 278 BCE), quoted by
Dr. LIU Fang, Vice-President of
China Aerospace Science and Technology Corporation (CASC),
on 25 April 2008, China Academy of Space Technology (CAST), Beijing

Chairperson,

Excellencies,

Distinguished representatives from the public and private sectors, the academia,
the civil society and the media,

Honoured guests,

Ladies and Gentlemen,

Nǚshìmen, xiānshengmen, wǒ hěn gāoxìng jiàn dào nǐmén lái cānjiā zhè
gè zhòngyào de dàhuì.

I should like to express my deep appreciation to our hosts, the Organizers
of the Washington DC Second Global Space Development Summit, for having
invited me to participate in this Panel on "Global Cooperation in a New Space
Era", which would frame the issues of international cooperation in space and
discuss space activities at the broadest global strategic level.

The views I will now express are my personal views. I will speak on the
issue of "**the WTO model as a guide for multilateral governance among
space-faring nations, lessons for global space cooperation, exploration and
public good, and a proposal for an international framework to sustain
multilateral governance of space cooperation and exploration**".

My first remark is that the World Trade organization WTO is the only global international organization dealing with the rules of trade between nations.

The WTO provides a framework for negotiating and formalising trade agreements, promoting fair competition, encouraging development and economic reform, and a dispute resolution process aimed at enforcing participating countries' adherence to WTO agreements. The goal is to help producers of goods and services, exporters and importers conduct their business. The ultimate objective of the multilateral trading system of the WTO is to enhance human welfare , to integrate vulnerable economies into world trade and to contribute to sustainable growth and poverty alleviation. Today, the WTO has 153 Member countries, representing more than 95% of total world trade, and 30 observer countries in accession negotiations to the WTO.

A successful conclusion of the current Doha Round of Multilateral Trade Negotiations should be the most effective way of fostering global political economy dynamics.

By analogy, one could say that there is also now a priority need to coordinate space exploration and to reach some kind of consensus about how space-faring nations should cooperate multilaterally in space exploration. It is now time for nations to discuss how to transform global space exploration into a successful multilateral endeavour. To be successful, a collective management of natural space resources, "the new global space public good", could be designed with a view to managing shared space resources sustainably and equitably.

My second observation is that, broadly speaking, among the multiple elements which decisively boost strategic interests of space-faring nations in space development are the permanent adaptation and the necessary transformation of their economies towards knowledge-based world centres for higher value and creative goods and services. Today, as a result of this factor, **the emergence of space-generated highly-integrated goods and services economies** are becoming a necessary condition for the provision of new forms of global public good.

In the arena of the World Trade Organization (WTO), what does one mean by global governance and by global public good? **The WTO is an embryo of global governance.** The WTO contains a set of values, it involves different types of actors and it provides for procedures to arbitrate between States and between values and interests. **The WTO crystallizes the parameters of the multilateral trade system which is a public good.** The basic value underpinning the WTO is that market opening is good. Market opening allows for **a division of labour between countries and for resources to be used more appropriately and more effectively for production.** The last sixty two years showed the positive effects of the opening-up of trade.

As it is also well known, the WTO trading system helps to increase efficiency and to cut costs as a result of the implementation of important principles enshrined in the trading system, e.g. **non-discrimination** (trade from all WTO Members is treated alike), **transparency** (clear information is notified about policies, rules and regulations), **certainty and predictability** (commitments and bindings are enforced to lower trade barriers and to increase other countries' access to one's markets).

This takes me to my next message. **The WTO recognizes the importance of values other than market opening and trade efficiency.** Legitimate government policies may justify measures which are contrary to basic GATT market access rules. States have the right to deviate from market access obligations to favour values ranging from the conservation of natural resources to the protection of human, animal and plant life and health.

There is another principle of the WTO system that assists in the arbitration of values between Members and between trade values and non-trade values. Each Member is largely free to determine the values to which it gives priority and the level of protection it deems adequate for such values. This would include any societal value elected by a WTO Member. The only control exercised by the WTO is whether the Member has acted in good faith when invoking such non-trade values or whether it is rather hiding a protectionist device. This control is exercised by an indispensable instrument, **the WTO dispute settlement mechanism.**

This month, in November 2009, the WTO reached the milestone of having the 400th trade dispute brought to the Dispute Settlement Body mechanism. Since coming into existence in January 1995, the 153 WTO Member countries initiated an average of approximately 27 trade disputes per year under the provisions of the Dispute Settlement Understanding, the WTO Treaty governing the settlement of all trade disputes among the 153 WTO Members. This situation is surely a vote of confidence in a system which many outside observers consider to be a role model for the peaceful resolution of disputes in other areas of international political or economic relations. Of the 400 cases filed so far, approximately half have eventually been settled directly between the parties, under the system's mandatory consultation requirements,

without going to litigation. Of the remainder, 169 have been the subject of panel proceedings and, where appealed, Appellate Body proceedings, 17 are currently in adjudication, and 12 are still the subject of active consultation between the parties.

The WTO dispute settlement system is widely considered to be the jewel in the crown of the WTO. The United States and the European Union are the most frequent users of the WTO dispute settlement system. This is not surprising, since they are the world's biggest traders, as is increasingly the case with China. But during the period 1995-2009, developing countries have been complainants in more than 45 per cent of all cases, and they have been respondents in more than 42 per cent of the cases. **The message here is that the WTO dispute settlement system, the bedrock of the multilateral trading system, will not be subject to any seismic shift in its fundamental structure. As such, it exudes "serendipity" in situations where too often opacity and transparency intersect.**

Clearly, the existence of a dispute settlement mechanism confers on the rules agreed to in the WTO **a particularly binding force for its 153 Member countries.** Non-observance of the rules may give rise to litigation and the litigants are bound to accept the decision of the WTO Dispute Settlement Body. Otherwise, sanctions can be imposed, which is a considerable step to consider. Over the years, the WTO has been quite sensitive to maintaining a balance between trade and non-trade values. As I have just indicated, the WTO provides that **in some circumstances non-trade values can supersede market access and trade values,** provided that the governmental action is necessary to pursue the goal and that the value is determined by each Member and provided that **the least trade restrictive measure is chosen to implement the desired value.** In

the WTO, in cases of disagreement among two or more Members, it is for the WTO Court to adjudicate and to determine whether the measure was necessary to enforce such value and whether the least trade restrictive measure to do so was chosen. The WTO Court has always insisted on the "importance of the common interests or values" protected by that law or regulation of that Member. The rule is that "the more vital or important those common interests or values are, the easier it would be to accept as "necessary" a measure designed as an enforcement instrument".

WTO decisions are taken by consensus, providing a *de facto* veto to each Member or at least the most powerful ones. Generally, decisions negotiated in Geneva at WTO Headquarters must be ratified domestically. **No WTO body is entitled to initiate legislative change**. The WTO bodies and the WTO Secretariat cannot enact regulations or other norms that would add to the original treaty or even that would implement a basic norm included in the WTO treaty. **This authority is left to States alone.**

The WTO has put in place a few principles that recognize that the WTO is an international public good. WTO response has been the following. First, in its Preamble, the WTO Agreement states explicitly that while trade expansion should take place, it should do so while "**allowing for the optimal use of the world's resources in accordance with the objective of sustainable development**". By definition sustainable development calls for the consideration of fundamental values other than those of market opening to include, for instance, the protection of the environment, human rights and other social values.

Second, **the WTO Agreement also prohibits any unilateral action by any WTO Member.** In this sense, the WTO goes ahead of traditional international law that allows individual States to determine whether another state is in violation of its international obligation and to react and respond to the violation by another State with countermeasure. No WTO violation justifies resorting to a unilateral retaliatory measure by a Member. If Members disagree as to whether a WTO violation has occurred, the only remedy available to them to resolve this question is to initiate a WTO dispute settlement process and obtain a WTO determination on the matter.

Third, a principle was established when the WTO Court decided that the provisions of the WTO could not be read in isolation from international public law. This meant that the WTO is only part of a more global system that includes several sets of rights and obligations. **There is no priority given to WTO norms over other norms.** Hence there exists an absolute need to ensure global coherence in the interpretation and application of all values, rights and obligations.

It is clear that the international trading system belongs to all of us and that therefore it is an international public good. The opening up of markets, and as a result the globalization of the economies, produce benefits. Conversely, these factors also have a cost. If trade opening results in a different distribution of benefits between nations, the distribution of the benefits within nations is largely beyond our control. Hence it is necessary to cooperate more coherently with other international organizations working in the interests of international governance. **It is also essential that the WTO reinforces its cooperation with existing regional and international, public and private, entities with a view to insufflate into these entities those embryos of international public good**

which lie within the WTO Agreement and which permeate through WTO actions.

Because of these existing WTO values, trade has increased substantially since the late forties and contributed tremendously to the improved living standards worldwide. It would therefore be beneficial if there is collaboration among all spacefaring nations to develop a set of multilateral disciplines to regulate production and trade of relevant space-generated highly-integrated goods and services. It is quite clear that no one country can succeed by itself in this area. Effective cooperation among States is a *sine qua non* for the development and expansion of this newly important sector of the global economy.

A fundamental condition for the enhancement and pursuit of the competitiveness of skilled workforce in space-related high technologies depends on a strong, adapted educational foundation, mostly mathematical and scientific skills. In the 24/31 August 2009 issue of Aviation Week & Space Technology, Norman Augustine, a former Chairman and CEO of the Lockheed Martin Corp, who leads the White House study panel on the future of the United States human spaceflight program, stressed "the United States race to the bottom". According to American studies, 50 to 85 % of the US growth in gross domestic product is attributable to science and engineers advancements. Although today scientists and engineers comprise only 4% of the nation's workforce, they disproportionately create jobs for the other 96%. However recent international tests reveal US students in 25th place in mathematics and 23rd place in science. For Norman Augustine, it is therefore no wonder if two-thirds of the engineering Ph.D's granted by US universities are awarded to non-US students.

By adapting their economic strategies and by drastically renovating their education building block, developed and developing economies will continue attracting cutting-edge firms and establish themselves as world-class centres for higher-value, creative goods and services in specialized activities directly linked to the production of space-generated goods and services, which are a growing and sophisticated component of the world economy.

It is estimated that today more than three quarters of global space economic activities stem from purchases of commercial satellite-based goods and services. Activities in two commercial satellite services, DTH Television and Global Positioning System (GPS) equipment post the strongest growth numbers. In addition to the manufacturing of launch sites, launch vehicles, satellites and ground equipment related to space operations, space-generated goods and services have extended their impact and now deliver value across virtually all economic areas, from transportation to healthcare to financial services. Applications range from travel planning and tourism, traveller navigation, and mobile satellite radio services, to entertainment and internet connectivity, improved telemedicine services and resource management.

Furthermore the exploration of space by humans and robots will expand and create new opportunities for government and private space activities in the field of advanced fission-based power systems, crew and cargo launch vehicles, commercial spaceflights, unmanned transfer vehicles, revamped ISS orbiting laboratories, human lunar and mars outposts, lunar and mars landers. According to the 2008 Space Report from

the Space Foundation, "the combined public and private investment in space research, development, and commercial production has increased steadily. The shift from government being the primary source of funds for space research toward private investment has become pronounced over the past decade. If current trends continue, the commercial space sector will continue to grow in comparison to government space exploration and operations and potentially become the most important driver of overall space activities". Also, the **Augustine panel report** published on 22 October 2009 points out that if **crew transport services** to the International Space Station ISS were **passed to the private sector**, it would free NASA to work on more difficult and more exciting objectives. NASA would be better served focusing on going beyond low-earth orbit (LEO) rather than running a trucking service for both cargo and humans between the earth and low-earth orbit which could be left to commercial firms.

Worldwide, appropriate strategies should be implemented with the objective of providing adequate conditions for creativity and innovation. Physical and virtual market connectivity will be boosted by readjusted intellectual property and services laws, regulations and practices, transparent and clearly defined legal and taxation legislation, first-rate infrastructure, clean and safe environment, and a highly conducive climate to do business with the promotion of administrative innovation and smooth relations between the public authorities and markets. Changes in industrial policy and adaptation of incentives will favour value-added creativity and force companies to upgrade their product mix and to create technologically advanced goods, services and processes. **Creative innovation agility is the new business model**. In addition, the pursuit of national, regional and multilateral liberalization of goods and

services would also have the potential of benefiting economies, nationally, regionally and globally.

At a global level, world economies need to renovate the body of existing trade laws and promote further economic reforms, including in the sectors of advanced technology products and services, including those directly involved in space exploration. This would be, to a certain degree, a kind of multilateral answer to the numerous "heavenly questions" raised by the Chinese poet QU Yuan some 2300 years ago!

Obviously, there is no credible alternative to the rules-based multilateral trading system, which has done so much to underpin the tremendous expansion of the global economy in the last sixty years. At the same time, multilateralizing the concessions offered under bilateral and regional trade agreements should be a key target for governments and traders. There is no better way than a strengthened multilateral trading system that would favour the expansion of the knowledge economy and also the global space development. It should create business opportunities for developing countries who need to be fully integrated into the multilateral trading system. Let us be under no illusion. Without a credible multilateral trading system, the world risks losing a major opportunity to integrate vulnerable economies into world trade, and undermining their potential for contributing to sustainable growth and poverty alleviation.

Global solutions reflecting today's geopolitical realities are emerging within a "triangle of coherence". On one side of the triangle lies the Group of 20, consisting of developed economies as well as emerging developing leading economies including Brazil, China and India. This Group of 20 is now the premier forum for international economic cooperation, and provides global

political leadership and policy direction. On another side of the triangle lie the Member-driven International Organizations providing expertise and specialized inputs be it rules, policies or programmes, such as the WTO. The third side of the triangle is the Group of 192, the United Nations membership, which provide a universal forum for accountability. In the future, both the Group of 20 and the international organizations would report to the "Parliament" of the United Nations. This would constitute a potent mix of leadership, inclusiveness and action to ensure coherent and effective global governance with a view to create adequate institutions for the collective management of natural space resources. **As I have just endeavoured to explain, a revamped WTO model could be an appropriate guide for the collective management of natural space resources.** Allow me also to mention that other existing agreements as well as new rules emerging in multilateral agreements under negotiation could obviously represent additional possible models for space cooperation.

Ladies and Gentlemen, under the enlightened impulse of the leading economies, the world needs to prepare for a smooth readjustment in today's economic and geo-political fractures, including in the nascent global cooperation in space. This could exemplify what the first Chinese classical text, the Yi Jing or "Book of Changes" asserted 5000 years ago in its hexagram 53: "development should proceed step by step against precipitate actions".

Let me conclude by emphasizing the leading positive role played by the Center for Strategic and International Studies (CSIS) of Washington DC and the Chinese Society of Astronautics (CSA) of Beijing, jointly with the Chinese Academy of Science, in how space development should proceed gradually, step by step, as taught by Yi Jing and the Zhōu Yi commentaries which followed. This Second Global Space Development Summit reinforces the 2008 Beijing

platform for forging new alliances amongst different actors on issues of priority concern in the field of space exploration and space cooperation. There is awareness that power lies in collaborative innovation, and in a pooling of intellectual and other resources. Also, the trade system administered multilaterally by WTO Members is a key element of a humanised global space development. "Globalicism" (quanqiuzhuyi) is to ensure that it helps all of us to reap the greatest possible dividend of prosperity, peace and social harmony.

This Second Global Space Development Summit is indeed an excellent opportunity to assist all interested communities in their essential tasks of how to develop the right strategies for wealth creation at national, regional and global levels. There is now an urgent need to coordinate space exploration and to reach consensus about how nations should cooperate multilaterally in space exploration. It is now time for space-faring nations to start discussing concretely how to devise a possible multilateral framework for space exploration and cooperation.

Ladies and Gentlemen, some final thoughts from Stephen Green, the Chairman of HSBC, drawn from his book "Good Value, Reflections on Money, Morality and on an Uncertain World":

(I quote) We will not cease from exploration (and striving), though we will not see the end. And even though we only have an incomplete and provisional understanding of the direction and destination, we have it in our power to hope for progress towards it, which is the only responsible vision for life in the global bazaar" (end of quote).

Shìjiè màoyì zǔzhī de tánpàn fāzhǎn wénmíng de héxié yǔ gòngtóng
fánróng.

Gǎnxiè zhù wèi.

Thank you very much for your kind attention.

REFERENCES

- BALL Philip, Critical Mass, Arrow Books, London, 2004
- BAYNES Wilhelm, The Yi Jing or Book of Changes, Princeton University Press, 1990
- CHAITIN Gregory, Meta Math, Pantheon Books, New York, 2005
- GREEN Stephen, Good Value, Reflections on money, morality and an uncertain world, Allen Lane, London, 2009
- General Agreement on Tariffs and Trade GATT, in "Final Act", WTO website www.wto.org/English/docs_e/legal_e/legal_e.htm
- Doha WTO Ministerial Declaration 2001, WTO website www.wto.org/English/thewto_e/minist_e/min01_e/mindecl_e.htm
- KROMMENACKER, Raymond (1987), Services and Space Technology: The Emergence of Space Generated, Highly Integrated Goods and Services (IGS), in Giarini Orio, Bhagwati Jagdish, and alii, The Emerging Service Industry, Oxford, Pergamon Press
- KROMMENACKER, Raymond (2008), Advanced Technology Products and Services: Challenges and Opportunities of WTO Liberalization Negotiations, and Impact on China Creative Economy; Beijing WTO Affairs Center Conference, Beijing, China, 1November2008;
<http://www.bjwto.org/wto/forum2008/list.asp?Unid=275>
- KROMMENACKER, Raymond (2006), Globalicism and Compatible Advantage for Globally Disintegrated Companies (GDCs) in the Market Dynamics of Developed and Developing Economies, An Overview of Past, Present and Future of Trade and

Development; Conference at Chung Hua Institution for Economic Research, 29 August 2006, Taipei, Chinese Taipei.

- KROMMENACKER, Raymond, World-Traded Services, foreword by James D. Robinson III, Chairman, American Express Company Inc., Artech House Publisher, USA, 222 pages, 1984, Library of Congress Catalog Card Number 84-071258.
- OSTROM, Elinor, Governing the Commons, Cambridge University Press, 280 pages, 1990.
- SMITH Adam, An Inquiry into the Nature and Causes of the Wealth of Nations, Edwin Cannan's annotated edition, Methuen & Co. Ltd 1904

YI JING HEXAGRAM 53



The Yi Jing or "Book of Changes" is the oldest of the Chinese classic texts. Traditionally it was believed that the principles of the Yi Jing originated with the mythical Fu Xi, some 5000 years ago. It describes an ancient system of cosmology and philosophy which is at the heart of Chinese cultural beliefs. The philosophy centres on the ideas of the acceptance of the inevitability of change, the evolution of events as a process and the dynamic balance of opposites. The Zhou Yi gave commentaries later on. The Yi Jing symbolism is embodied in a set of 64 abstract line arrangements called hexagrams. Hexagram 53 symbolizes the gradual progress of development. It is made up of "Sun" meaning tree, and "Ken" meaning mountain. A tree on a mountain develops slowly and is firmly rooted. This hexagram 53 gives the idea of a development that proceeds step by step, against precipitate actions. Its growth proceeds gradually. This is how space development is evolving over the years.