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Advisory Opinion

On the Preservation and Utilization of Cultural Properties to Support the Continuation and Development of Local Communities

27 September 2023

Science Council of Japan

Subcommittee on Protection and Utilization of Cultural Properties

Committee on History

This Advisory Opinion summarizes and publishes the results of the deliberations of the Subcommittee on Protection and Utilization of Cultural Properties, Committee on History, Science Council of Japan.

Subcommittee on Protection and Utilization of Cultural Properties

Chair	FUKUNAGA Shin'ya	(Associate Member)	Professor, Graduate School of Humanities, Osaka University
Vice-chair	HAGA Mitsuru	(Section Ⅰ Council Member)	Professor, Institute for Excellence in Higher Education, Tohoku University
Secretary	KIKUCHI Yoshio	(Associate Member)	Professor, Faculty of Administration and Social Sciences, Fukushima University
Secretary	MATSUMOTO Naoko	(Associate Member)	Professor, Research Institute for the Dynamics of Civilizations, Okayama University
	USUKI Isao	(Associate Member)	Professor, Faculty of Humanities, Sapporo Gakuin University
	UCHIYAMA Sachiko	(Associate Member)	Professor, School of International Cultural Relations, Tokai University
	EDANI Hiroko	(Associate Member)	Senior Researcher, Department of Cultural Heritage, Nara National Research Institute for Cultural Properties
	OKUBO Tetsuya	(Associate Member)	Professor, Faculty of Literature, Tokushima Bunri University
	OKUMURA Hiroshi	(Associate Member)	Professor, Graduate School of Humanities, Executive Vice President, Kobe University
	SATO Yoshiaki	(Associate Member)	Professor, Faculty of Law, Seikei University
	SATO Hiroyuki	(Associate Member)	Emeritus Professor, Project Researcher, Graduate School of Humanities and Sociology, The University of Tokyo

SEYA Ai	(Associate Member)	Senior Curator, Collections Management Division, Tokyo National Museum
TSUJITA Jun'ichiro	(Associate Member)	Associate Professor, Faculty of Humanities, Kyushu University
HAYASHIBE Hitoshi	(Associate Member)	Professor, National Museum of Japanese History
MATSUDA Akira	(Associate Member)	Associate Professor, Graduate School of Humanities and Sociology, The University of Tokyo
MIYAJI Atsuko	(Associate Member)	Professor, Division of Humanities and Social Sciences, Faculty, Nara Women's University

In preparing this advisory opinion, the subcommittee benefited from the cooperation of the following people.

OHMI Toshihide	Chief Senior Cultural Properties Specialist, Second Cultural Properties Division, Agency for Cultural Affairs
OKADA Ken	Professor, Faculty of Letters, Nara University
KODANI Ryusuke	Supervising Manager, Cultural Heritage Disaster Risk Management Center, Japan
SUGIMOTO Hiroshi	Professor, Faculty of the Arts, Kyoto University of the Arts
SEDANI Kyoko	Chief, Cultural Heritage Division, Wakayama Prefectural Board of Education
NIIYA Toshinori	Chief Editor, Lifelong Learning Division, Maniwa City Board of education
NEGITA Yoshio	Director, Osaka Prefectural Museum of Yayoi Culture
HOSHINO Akie	Director, Office for Global Promotion of Japanese Culture, Agency for Culturally Affairs

Staff members responsible for preparation of Advisory Report.

Secretariat	MASUKO Noriyoshi	Director, Division for Scientific Affairs Ⅰ (until April 2023)
	NEGORO Kyoko	Director, Division for Scientific Affairs Ⅰ (from May 2023)
	YAMADA Hiroshi	Deputy Director, Division for Scientific Affairs Ⅰ (until March 2023)
	WAKAO Kimiaki	Deputy Director, Division for Scientific Affairs Ⅰ (from April 2023)
	SAKUMA Misato	Unit Chief, Division for Scientific Affairs Ⅰ

This English version is a translation of the original written in Japanese.

EXECTIVE SUMMARY

Ⅰ Background

The cultural properties that have been nurtured in various parts of Japan over many years and handed down to this day are irreplaceable national assets. Inheriting, protecting, and passing on these cultural assets to the future will also lead to the inheritance and development of the local communities that have created them.

However, in the 21st century, the future of cultural property protection is becoming uncertain due to the frequent occurrence of large-scale disasters and the decline of local communities due to population decline.

Additionally, revision of the Law for the Protection of Cultural Properties in 2018, which was the biggest change since its enactment, aimed at improving the social and economic value of cultural properties through their use, including tourism, against the background of the country's policy to boost cultural GDP. On the other hand, it poses a new challenge: how to ensure an appropriate and sustainable balance between preservation and utilization. Furthermore, in recent global trends, there is a growing understanding that cultural properties and heritage are the resources that contribute to the Sustainable Development Goals (SDGs).

In the light of the situations surrounding cultural properties which have been undergoing major changes, we will examine current urgent issues related to the protection of cultural properties and propose effective improvement measures.

Ⅱ Current Status and Issues

There are three issues that need immediate improvement:

The first one concerns disaster prevention and mitigation of cultural properties. Amidst the increasing loss and damage of cultural properties due to the large-scale disasters that have occurred in recent years, it is a major problem that the perspective of disaster prevention of cultural properties is weak in the " Disaster Management Basic Plan" which constitutes the national disaster prevention action plan. In addition, there are some cases where disaster prevention plans are insufficient in the "Regional Plans for the Preservation and Utilization of Cultural Properties" formulated by municipalities. Furthermore, Japan's permanent disaster prevention system for cultural properties finally took its first step with the establishment of National Institutes for Cultural Heritage, Cultural Heritage Disaster Risk Management Center in 2020; however, when considering the role that the Center should play in the future, it is difficult to say that the current organizational structure is sufficient to fully demonstrate its

capabilities.

The second concerns policies to realize the purpose of the revision of the Law for the Protection of Cultural Properties. A major point in the 2018 revision of the law is the legalization of the formulation of "Regional Plans for the Preservation and Utilization of Cultural Properties" in municipalities. It is a system to enhance understanding local cultural properties and their utilization including tourism use, in a planned manner, which is a perquisite for achieving both preservation and utilization of cultural properties. However, it still accounts for only 5.5% of local governments that have formulated such plans. In order to create a virtuous cycle of cultural property protection and the inheritance and development of local communities, it is important to accelerate the formulation of the regional plans and to enrich their content.

The third concerns development of specialists who will lead the future of cultural property protection. The latest law revision calls for cultural property protection to be carried out “with the whole region involved”, including cultural property owners and protection organizations. Therefore, the role of local government officials specialized in cultural properties as key players in this, is very important. However, one-third of local governments nationwide does not have such specialized staff members. Furthermore, there is a concern that the number of students aiming to become cultural property specialists at universities that provide specialized education in history, archeology, and cultural properties is on the decline. Thus, for the sustainable protection of cultural properties, there is an urgent need to train successors as such specialists at universities.

Ⅲ Main Points of the Advisory Opinion

(1) Promoting active efforts for disaster prevention and mitigation of cultural properties

①The government (Cabinet Office in charge of disaster management) needs to enrich the descriptions related to cultural properties in " Disaster Management Basic Plan", such as disaster prevention measures for various cultural properties, emergency disaster countermeasures and plans for the protection of cultural properties during the process of disaster recovery and reconstruction. It is also important for local governments to create regional disaster management plans that fully reflect such perspectives on disaster prevention for cultural properties. Furthermore, it would be effective to include the Commissioner for Cultural Affairs and academic experts related to cultural properties as members of the national Central Disaster Management Council or the Disaster Management Implementation Committee under the Central Disaster Management Council.

②Local governments need to take measures for disaster prevention of cultural properties during normal times in their administration. Specifically, it is effective to clarify cooperation between local governments and private cultural property rescue organizations in the "Regional Plans for the Preservation and Utilization of Cultural Properties" which is the basis of cultural

property policies of local governments. It is also helpful to create a cultural property disaster prevention manual and hazard map. At the same time, in order to smoothly rescue and preserve cultural properties, it is important to systematically secure storage locations for disaster-affected cultural properties and to establish a system of collaboration in advance with those organizations that have conservation and restoration technology.

③National Institutes for Cultural Heritage, Cultural Heritage Disaster Risk Management Center, which was established in 2020, is highly expected to play a central role in disaster prevention for cultural properties in Japan. However, when viewed as the only one national organization responsible for disaster prevention of cultural properties in Japan, an "advanced country in disaster prevention", there are currently some deficiencies in its organizational structure and contents of operation. In order to create a system for disaster prevention of cultural properties throughout Japan and promote international cooperation in the field of disaster prevention of cultural properties, it is necessary for National Institutes for Cultural Heritage and Agency for Cultural Affairs that has jurisdiction over Cultural Affairs Agency and cultural property disaster prevention center as their umbrella organization to further strengthen the functions of Disaster Risk Management Center, including increasing the number of full-time staff members.

(2) Accelerating protection measures under the revised Law for the Protection of Cultural Properties

For the Agency for Cultural Affairs, which is in charge of "Regional Plans for the Preservation and Utilization of Cultural Properties", it is required to strengthen support for the formulation of the plans, including the enhancement of government subsidies, and guide municipalities, under the cooperation of relevant divisions within the agency, so that the content of their "Regional Plans" fully takes into account the historical and cultural environment of each municipality. For the Prefectural governments it is required to provide strong guidance and support so that as many municipalities under their jurisdiction as much as possible have "Regional Plans", and municipalities should formulate "Regional Plans" that take advantage of the characteristics of cultural properties in their area and conduct the projects of their preservation and utilization including tourism use. It is necessary both for prefectures and municipalities to accelerate implementation of the above-mentioned measures.

(3) Strengthening the development of specialists responsible for the future of cultural property protection

In order to strengthen the training of the next generation of specialists in cultural property protection, the Agency for Cultural Affairs is required to design a new system that bridges expert training and administration of cultural property protection, and universities and local governments should promote joint planning for cultural property protection projects which serve as a place for training specialist for both. It would also be effective for both the university

and the government to consider interdisciplinary education and staff recruitment methods that would allow for specialized staff to be obtained from students majoring in fields other than those related to history, archeology and cultural properties.

Advisory Opinion

Reconstruction of a resilient and secure community and medical care system taking into account the era living with coronavirus

27 September 2023

Science Council of Japan

Subcommittee on Aging,
Committee on Clinical Medicine

This advisory opinion is issued in accordance with the outcome of the deliberations of the Subcommittee on Aging of the Committee on Clinical Medicine, Science Council of Japan.

Subcommittee on Aging,
Committee on Clinical Medicine, Science Council of Japan

Chair	ARAI Hidenori	(Section Ⅱ Council Member)	President, National Center for Geriatrics and Gerontology
Vice-chair	ENDO Tamao	(Section Ⅱ Council Member)	Senior Fellow, Tokyo Metropolitan Institute of Gerontology
Secretary	AKISHITA Masahiro	(Associate Member)	Professor, The University of Tokyo
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	NOGUCHI Haruko	(Section Ⅰ Council Member)	Professor, Waseda University
	WAKE Junko	(Section Ⅰ Council Member)	Professor, Tokyo Metropolitan University
	ICHIKAWA Tetsuo	(Section Ⅱ Council Member)	Professor,Tokushima University
	OZAKI Norio	(Section Ⅱ Council Member)	Professor, Nagoya University
	KOMATSU Hiroko	(Section Ⅱ Council Member)	Professor, Japanese Red Cross Kyushu International College of Nursing
	TERASAKI Hiroko	(Section Ⅱ Council Member)	Professor, Nagoya University
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	YASUMURA Seiji	(Section Ⅱ Council Member)	Professor, Fukushima Medical University
	OGASAWARA Kouetsu	(Associate Member)	Professor, Tohoku University
	KASHIHARA Naoki	(Associate Member)	Professor, Kawasaki Medical University
	KIHARA Yasuki	(Associate Member)	Director, Kobe City Medical Center General Hospital

KUZUYA Masafumi	(Associate Member)	Director, Meitetsu Hospital
DOKI Yuichiro	(Associate Member)	Professor, Osaka University
HAGA Nobuhiko	(Associate Member)	President, National Rehabilitation Center for Persons with Disabilities

The following staff members were responsible for administration and research in this advisory opinion.

SCJ Office	MASUKO Noriyoshi	Director, Division for Scientific Affairs I（until April 2023）
	NEGORO Kyoko	Director, Division for Scientific Affairs I（since May 2023）
	YAMADA Hiroshi	Deputy Director, Division for Scientific Affairs I（until March 2023）
	WAKAO Kimiaki	Deputy Director, Division for Scientific Affairs I（since April 2023）
	SAKUMOTO Asuka	Official, Division for Scientific Affairs I（until March 2023）
	OKIYAMA Kiyomi	Unit Chief, Division for Scientific Affairs I（since April 2023）

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Summary

Ⅰ Background

More than three years have passed since the high risk of severe illness and death among older people due to novel coronavirus infection (COVID-19) attracted attention, and it is no exaggeration to say that this period has brought to light at once the regional and social issues (including issues in overall healthcare, including regional healthcare) that had existed before the epidemic. Another thing that should not be forgotten is the so-called "COVID-19-related frailty," secondary damage to health based on inactivity and disconnection from human interaction due to prolonged self-restraint for older people. Although COVID-19 has been classified as a category 5 infectious disease in its fourth year, it cannot be taken lightly. In addition, taking into account with-COVID-19/post-COVID-19 society, it is necessary to reconstruct local communities where residents can resume active participation, resilient communities from multiple perspectives, and healthcare systems that can give the public a sense of security while connecting such reconstruction to development of local communities.

Ⅱ Current Situation and Problems

(1) Weak healthcare systems in emergencies such as emerging infectious diseases and disasters.
The COVID-19 pandemic has revealed the challenges in healthcare for older people in Japan. The challenges are common not only to COVID-19 but also to other emerging infectious diseases and disasters, but the pandemic has once again highlighted the vulnerability of older adults.
(2) End-of-life (EOL) care and advance care planning (ACP) are not functioning during a contingency.
The COVID-19 pandemic had a significant impact on the EOL of many older people, and the biggest factor was the lack of implementation and dysfunction of ACP, which made it difficult for them to share their values, intentions, and life goals with their families and healthcare providers.
(3) Inadequate use of ICT (information and communication technology) and the latest technologies.
The disparity in the digital field (digital divide) is more pronounced among older people, and the benefits of new technologies, such as digitalization and robotics, have not fully reached older people. This has contributed to social isolation and frailty among older people.
(4) Various secondary health outcomes have emerged as a result of the COVID-19 disaster.
The COVID-19 disaster accelerated secondary health outcomes due to the influence of misinformation and disinformation as the excessive self-restraint in life became

prolonged. While the ability to screen information of older people is a big issue, they are generally vulnerable to information technology, and in many cases, it was observed that they had difficulty accessing correct information.
(5) Lack of human resources in the field of public health.
After experiencing the COVID-19 pandemic, the usual promotion of vaccine development, therapeutic drug development, and measures to prevent serious illness among older people remain a major challenge. Information gathering and analysis during normal times in the public health, medical care, and nursing care sectors are also issues, and a shortage of human resources for this purpose was also evident.

Ⅲ Content of Opinion

After experiencing the pandemic caused by COVID-19, we have compiled a vision for the future of the aging Japanese society, not only from a viewpoint of individual health but also from a broader viewpoint of the system in the medical community as well as in the local community and environment. We hope that these views will be reflected in policies (including cross-ministerial flow) of academic associations such as the Japan Geriatrics Society, the Ministry of Health, Labour and Welfare, the Ministry of Education, Culture, Sports, Science and Technology, the Ministry of Economy, Trade and Industry, the Ministry of Land, Infrastructure, Transport and Tourism, the Cabinet Office, various professional organizations, and others.
(1) Healthcare systems that respond promptly to other emerging infectious diseases, disasters, and contingencies should be reconstructed.
As an issue that can commonly arise not only in COVID-19 but also in other emerging infectious diseases, disasters, and other contingencies, it is necessary to develop a healthcare system that is designed for the older population as the most vulnerable segment of the population.
(2) End-of-life (EOL) care and advance care planning (ACP) that is fully respected even in a contingency should be accelerated.
To enable each older person to live as he or she desires until the EOL, ACP should be implemented from the early stage so that all parties involved can share the person's values, intentions, and life goals with family members and healthcare personnel, and reflect them in EOL care.
(3) The use of information and communication technology (ICT) and new technologies should be promoted to actively build new regional communication.
It is required to eliminate Disparities in the digital field (digital divide), and to create an environment where everyone can benefit from digitalization. In addition, new regional communication needs to be created to prevent social isolation, in which the perspective of mobility support is also indispensable.
(4) The various secondary health outcomes manifested by the COVID-19 disaster among older people should be prevented through a multifaceted approach.
It is required to pay the utmost attention to the prevention of secondary health outcomes through a multifaceted approach that includes awareness-raising for health

maintenance and appropriate information related to health maintenance.
(5) We should promote research in the field of public health and strengthen human resource development in this area, with a focus on analyzing information on health, medical care, and long-term care from ordinary times.
At the same time, continuous support is needed for basic research that will lead to the seeds of clinical applications, even before an emergency arises. In particular, researchers at universities and research organizations should be mindful of promoting these activities, but at the same time, the government (local and national governments that have data, and the national government that supports research and human resource development) must also play an extremely important role.

Advisory Opinion

Clinical, research and educational action plans to comprehensive strategies to improve musculoskeletal pain

27 September 2023

Science Council of Japan

Subcommittee on Chronic Pain,

Committee on Clinical Medicine

This Advisory Opinion is issued in accordance with the outcome of the deliberations of the Subcommittee on Chronic Pain of the Committee on Clinical Medicine, Science Council of Japan.

Subcommittee on Chronic Pain,
Committee on Clinical Medicine of Science Council of Japan

Chair	NAKAMURA Masaya	(Associate Member)	Professor, Keio University, School of Medicine, Department of Orthopaedic Surgery
Vice-chair	SUMITANI Masahiko	(Associate Member)	Associate Professor, The University of Tokyo Hospital, Department of Pain and Palliative Medicine
	OCHI Mitsuo	(Section II Council Member)	President, Hiroshima University
	TOYAMA Yoshiaki	(Associate Member)	Chief Executive Officer, International Medical Information Center
	MURAI Toshiya	(Associate Member)	Professor, Kyoto University, Graduate School of Medicine, Department of Psychiatry
	KONNO Shinichi	(Designated Associate Member)	Professor, Fukushima Medical University, Department of Orthopaedic Surgery
	SEKIGUCHI Miho	(Designated Associate Member)	Professor, Fukushima Medical University, Laboratory Animal Center

The following members have contributed to this Advisory Opinion.

USHIDA Takahiro	Professor, Aichi Medical University, Graduate School of Medicine, Department of Pain Medicine

TAJIMA Fumihiro	Professor, Wakayama Medical University, School of Medicine, Department of Rehabilitation Medicine
TSUDA Makoto	Professor, Kyushu University, Graduate School of Pharmaceutical Sciences, Department of Molecular and System Pharmacology
MATSUMOTO Morio	Professor, Keio University, School of Medicine, Department of Orthopaedic Surgery
YABE Hirooki	Professor, Fukushima Medical University, Department of Neuropsychiatry

The following staff members were responsible for administration and research in this advisory opinion.

SCJ Office	MASUKO Noriyoshi	Director, Division for Scientific Affairs I（until April 2023）
	NEGORO Kyoko	Director, Division for Scientific Affairs I（since May 2023）
	YAMADA Hiroshi	Deputy Director, Division for Scientific Affairs I（until March 2023）
	WAKAO Kimiaki	Deputy Director, Division for Scientific Affairs I（since April 2023）
	SAKUMOTO Asuka	Official, Division for Scientific Affairs I（until March 2023）
	OKIYAMA Kiyomi	Unit Chief, Division for Scientific Affairs I（since April 2023）

This English version is a translation of the original written in Japanese.

Executive Summary

Ⅰ Background

Japan is the first country all over the world that has stormed into an ever-intensifying super-aged society and where the age-adjusted prevalence of musculoskeletal pain (low back pain, stiff shoulders and joint pain, etc.) associated with musculoskeletal diseases and disorders has become more than 10%. Musculoskeletal pain affects not only late middle-aged to very elderly population but also the age of maturity to middle-aged in Japan. We here discuss challenges of medical care, research and education systems required for resolving musculoskeletal pain as the public health issue.

Ⅱ The current situations and propositions of musculoskeletal pain in Japan

Chronic musculoskeletal pain can cause inactivity and avoidance behaviors, lead to a sedentary lifestyle, exacerbate general health conditions including lifestyle-related diseases, and finally increase the risk of shortening the life-span and the healthy life expectancy. Further, in recent circumstances with the novel coronavirus, fitness habits and maintaining individuals' living range have shrunk. Musculoskeletal pain can trigger a growing threat to both the healthcare burden and the welfare state spending. The Japanese Ministry of Health, Labour and Welfare launched government-financed research projects for chronic pain. However, the prevalence has not yet decreased but remained and rather a little bit increased. Comprehensive strategies for improving musculoskeletal pain consists of avoiding development of musculoskeletal pain, early detection and intervention for musculoskeletal pain before and very immediately after the onset of clinical signs and symptoms, and

managing musculoskeletal pain after diagnosis to halt or delay progression of the disease. These phased prevention strategies are corresponded by medical institutes functionally stepped from physicians' clinics, general hospitals to interdisciplinary pain centers of the medical districts. The comprehensive healthcare system reform for musculoskeletal pain from the acute to chronic phases should be built. Moreover, a variety of medical and healthcare professions including physicians with varied specialties and other professionals is really important. However, cultivation of such human resources for musculoskeletal pain has not yet been sufficiently succeeded. The ministry should fundamentally reframe the government-financed research and educational projects based on the recognition that musculoskeletal pain is a major public health issue.

Ⅲ The proposed action plans of this expertise

(1) It is necessary for the government to raise awareness of musculoskeletal pain by public health communication national movement and campaign about musculoskeletal pain toward each and every individual in Japan.

(2) It is necessary for the government to fundamentally reframe the government-financed research projects for musculoskeletal pain, focusing on prevention of susceptible conditions, prompt treatment at early development phase and improvement of chronic and severely-ill conditions associated with disability.

(3) It is necessary for the government to present practical examples of fitness habits and daily activities in the 'with-coronavirus era' for improving and maintaining individuals' living range in the current circumstances under the Infectious Diseases Act.

(4) It is necessary for the government to establish hierarchical structure and functional differentiation of medical institutes for medical and healthcare system for reducing complaints of musculoskeletal pain in the National Livelihood Survey and also reducing

patients with musculoskeletal pain in the medical care system, and ideally accomplishing scale-down of social welfare cost. A hierarchical structure and functional differentiation of medical institutes, which correspond respectively to primary (i.e., avoiding development), secondary (i.e., early detection and intervention) and tertiary (i.e., halting or delaying progression of disability) prevention strategies, in the medical fields should be built and managed for controlling musculoskeletal pain.

(5) As it is necessary for the government to cultivate human resources who diagnose and treat musculoskeletal pain for providing integrated and interdisciplinary pain approaches, a variety of medical and healthcare professionals including physicians with a variety of expertise and other professionals should be cultivated.

Advisory Opinion

Reference Standard for Comprehensive Synthetic Engineering Fields for Quality Assurance of University Education
～Cultivating human resources in the field of comprehensive synthetic engineering who are dedicated to addressing social issues～

27 September 2023

Science Council of Japan

Committee of comprehensive synthetic engineering
Planning subcommittee of comprehensive synthetic engineering

This Advisory Opinion is issued in accordance with the outcome of the deliberations of Planning subcommittee of comprehensive synthetic engineering, Committee on Comprehensive Synthetic Engineering, Science Council of Japan.

Planning subcommittee of comprehensive synthetic engineering, Committee on Comprehensive Synthetic Engineering, Science Council of Japan

Chair	KOYAMADA Koji	(Section III Council Member)	Chairperson, Professor, Faculty of Data Science, Osaka Seikei University
Vice-Chair	TAMADA Kaoru	(Section III Council Member)	Senior Vice President, Distinguished Professor, Kyushu University
Secretary	CHIKUMOTO Noriko	(Section III Council Member)	Professor, Center of Applied Superconductivity and Sustainable Energy Research, Chubu University / Professor, Osaka University
Secretary	ITOH Hiroyuki	(Associate Member)	Research Coordinator, Technology & Innovation Center, DAIKIN Industries, Ltd.
	YOSHIDA Aya	(Section I Council Member)	Professor, Faculty of Education and Integrated Arts and Sciences, Waseda University
	ITOH Kohei	(Section III Council Member)	President, Keio University
	YOSHIMURA Shinobu	(Section III Council Member)	Professor, Department of Systems Innovation, School of Engineering, The University of Tokyo
	ITOH Takayuki	(Associate Member)	Professor, Ochanomizu University
	ITOH Eri	(Associate Member)	Professor, Research Center for Advanced Science and Technology, The University of Tokyo
	IWAKI Chikako	(Associate Member)	Senior fellow, Energy Systems Research and Development

			Center, Toshiba Energy Systems & Solutions Corporation
	SHIOMI Junichiro	(Associate Member)	Professor, Institute of Engineering Innovation, School of Engineering, The University of Tokyo
	TSUJI Yoshiko	(Associate Member)	Professor, Environmental Science Center, The University of Tokyo
	TERASAKI Ichiro	(Associate Member)	Professor, Graduate School of Science, Nagoya University
	DEGUCHI Yasuo	(Designated Associate Member)	Professor, Graduate School of Letters,Kyoto University

Working Group on education in comprehensive synthetic engineering, Planning subcommittee of comprehensive synthetic engineering, Committee on Comprehensive Synthetic Engineering, Science Council of Japan

Chair	CHIKUMOTO Noriko	(Section III Council Member)	Professor, Vice Director, Center of Applied Superconductivity and Sustainable Energy Research, Chubu University/Professor, Osaka University
Vice-Chair	OKAMOTO Masahiro		Professor Emeritus, Advisor to the Dean of School of Interdisciplinary Science and Innovation, Kyushu University
Secretary	KOYAMADA Koji	(Section III Council Member)	Chairperson, Professor, Faculty of Data Science, Osaka Seikei University
Secretary	HAGIWARA Ichiro		Meiji University distinguished professor emeritus, Organization for the Strategic Coordination of Research and Intellectual Properties/Emeritus professor of Tokyo Institute of Technology
	TAMADA Kaoru	(Section III Council Member)	Senior Vice President, Distinguished Professor, Kyushu University

ITOH Hiroyuki	(Associate Member)	Research Coordinator, Technology & Innovation Center, DAIKIN Industries, Ltd.
KUROIWA Yuki		Benesse CorporationUniversity and Adult Education Program Development Department

The staff members responsible for the preparation of the Advisory Opinion

Secretariat	SASAKI Toru	Director, Division for Scientific Affairs Ⅱ
	TAKAHASHI Naoya	Deputy Director, Division for Scientific Affairs Ⅱ（Until March, 2023）
	YANAGIHARA Joko	Deputy Director, Division for Scientific Affairs Ⅱ（From April, 2023）
	KAGEYAMA Shoko	Official, Division for Scientific Affairs Ⅱ

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Executive Summary

1 Background for this Statement

This statement articulates the fundamental concept of the field of "comprehensive synthetic engineering" as a part of the ongoing efforts to establish a "Reference Standard for Quality Assurance of University Education in Specific Fields." This initiative stems from the Science Council of Japan's response to the request for deliberation on quality assurance in university education from the Director of the Higher Education Bureau at the Ministry of Education, Culture, Sports, Science, and Technology in May, 2008[1].

"Comprehensive synthetic engineering" is a new academic field. In the report compiled by the Comprehensive Synthetic Engineering Committee of the Science council of Japan, in 2010,[2] it was defined as “a lateral field in engineering not previously observed in traditional engineering “. It can be defined as ” a field related to artifacts designed and manufactured by mobilizing all engineering systems and knowledge.” Subsequently, in 2017, it was proposed that "Comprehensive synthetic engineering" reaffirms its universal position within the academic system of modern engineering and is a field of study for addressing discovery and resolution of challenges inherent in and confronted by contemporary society[3]. Based on these definitions, discussions have been conducted on essential competencies deemed necessary in comprehensive synthetic engineering for the 24th term of committee, including comprehensive knowledge, civic literacy, art thinking, and data science.

Based on the consideration of fundamental principles regarding the reference standard for the field of comprehensive synthetic engineering, this statement is released in order to be made available for use by universities already establishing or planning to establish undergraduate education programs in comprehensive synthetic engineering, as well as various entities involved in master's programs and other related areas.

2 Current Status and Challenges

In the report titled "Prospects for the Field of Comprehensive Synthetic Engineering" compiled on April 5, 2010[2], it is stated that the academic role of comprehensive

[1]Science council of Japan, Response: “The Approach to Quality Assurance in University Education in Specific Fields”, July 22, 2010 (In Japanese).
[2]Comprehensive synthetic engineering committee, Report: Science council of Japan, “Report: Future prospect of Comprehensive synthetic engineering”, April 5, 2010 (In Japanese).
[3]Comprehensive synthetic engineering committee, Science council of Japan, Recommendation: "Promoting Strengthening of 'Comprehensive synthetic Engineering' to Address Societal Issues", Sept. 6, 2017 (In Japanese).

synthetic engineering, which addresses not only engineering but the entirety of science and technology, is to deepen the involved fields while simultaneously integrating existing disciplines to create innovation, whose goal was to strengthen scientific and technological advancements that create necessary technological capabilities and values demanded by society. However, one year later, an unprecedented earthquake disaster occurred, and based on that experience, the Comprehensive Synthetic Engineering Committee of the Science Council of Japan compiled recommendations in 2017[3], and stated, “The Great East Japan Earthquake and the subsequent Fukushima Daiichi Nuclear Power Plant accident on March 11, 2011, demonstrated that current science alone cannot solve the issues posed by natural disasters and nuclear incidents. In order to not only generate societal and economic value but also to address the resulting societal and economic losses and in order that academia assume comprehensive responsibility for society as a whole, it is necessary to cultivate societal challenges by leveraging all forms of engineering. To this end, it was strongly indicated that there's a necessity for the promotion and reinforcement of comprehensive synthetic engineering, which includes the essential aspect of exercising leadership in the practical application of “Chi no tougou”, the transdisciplinary unification of knowledge."

On May 7, 2014, the National Academy of Sciences (the United States) issued an urgent recommendation emphasizing the need for national-level collaboration to support interdisciplinary research aiming to break through barriers in academia and address cross-cutting challenges. It was recognized that achieving innovation requires a holistic approach that transcends disciplinary boundaries, highlighting the essential role of the "holistic designer" in this pursuit. At that time, the state of "Convergent Research," which integrates fields like life sciences, physical sciences, and engineering, was still facing significant barriers, with a sense of crisis arising from the separate traditional approaches employed within each field. Additionally, Google, a leading global internet service provider, refers to such holistic designers as "smart creative leaders" and considers fostering such leaders as a part of the company's mission[4].

While discussions on the transdisciplinary unification of knowledge in Japan have been ongoing, specific actions have not been sufficiently implemented. To ensure the effective resolution of societal issues, two essential methodologies are necessary: the first one is the "back-casting method," which involves setting future goals for addressing societal issues and designing concrete processes by working backward from those goals; the second one is the "collective impact method," which fosters collaborative innovation by integrating diverse specialized knowledge and expertise at

[4]Eric Schmidt, Jonathan Rosenberg, “How Google Works”, John Murray Publishers Ltd., 2014.

each stage of the process towards achieving those goals[5].

Considering these aspects, individuals engaged in the field of comprehensive synthetic engineering require the following six capabilities[6]:

(1) Imaginative capability (imaginator); the ability to envision a desirable future by adopting a comprehensive perspective towards resolving societal issues;
(2) Planner, designer; the capability to conceptualize and design specific pathways towards resolving issues using the back-casting method
(3) Coordinator; the skill to coordinate projects among experts from various academic disciplines, beyond engineering.
(4) Practitioner; hands-on experience as an active participant in project implementation.
(5) Facilitator; the capability to drive projects forward.
(6) Adaptable talent; a continuous awareness of societal transformations and the ability to adapt to changes in the era.

In order to activate these abilities, it's essential to cultivate six skills: "self-learning capability (active learning)," "communication and collaborative skills," "facilitation skills," "connecting ability," "problem-solving skills," and "creativity." Unfortunately, current university and graduate education programs have nurtured almost no individuals capable of designing processes to address societal challenges by combining various specialties and skills.

3 Contents of the Advisory Opinion

Considering that comprehensive synthetic engineering serves as a discipline aimed at discovering and addressing challenges inherent in or confronted by modern society, this perspective was compiled to outline the cultivation of skills and qualities necessary for individuals to excel in the field of comprehensive synthetic engineering, specifically in confronting societal issues.

The contents of “Reference Standard for Comprehensive Synthetic Engineering Fields for Quality Assurance of Higher Education” are as follows.

(1) Definition of Comprehensive synthetic engineering
(2) Characteristics Specific to Comprehensive synthetic engineering
    ① Perspectives and Roles Specific to Comprehensive synthetic engineering

[5]Mitsubishi Research Institute, Inc., “‘*Kyouryouiki’kara no shin・senryaku innovation wa shakaijissou deketsujitu suru*”, DIAMOND, Inc., 2021 (In Japanese)
[6]Masahiro Okamoto, “Prospects for Issue-based Education as a Basis for Undergraduate Education in the Arts and Sciences: A Case Study of the Faculty of Co-Creation, Kyushu University”, 2022 IDE University Seminar "Considering the Realization of Education Combining Arts and Sciences: From the Perspective of High School-University Connection and University-University Connection", IDE University Association Kinki Headquarters, 2022. (In Japanese)

② Creation of New Academic Fields in Boundary and Fusion Areas

(3) Fundamental Qualities Aimed to Be Acquired by All Students Studying Comprehensive synthetic engineering

① Fundamental "Knowledge and Understanding" Acquired through Field Learning

② "Abilities" Exercised by Utilizing Fundamental Knowledge and Understanding

③ "Generic Skills" Acquired through Field-Specific Intellectual Training

(4) Basic Approaches to Learning Methods and Evaluation of Learning Outcomes

① Learning Methods

② Evaluation Methods for Learning Outcomes

(5) Relationship Between Specialized Education and Liberal Arts Education in Cultivating Citizenship