



JASON in Europe: Contestation and the Physicists' Dilemma about the Vietnam War

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This article examines the contestation that in the summer of 1972 disrupted workshops in Western Europe featuring renowned physicists affiliated to the top-secret JASON advisory group. Set up by the US Department of Defense research division, JASON was responsible for outlining new bombing strategies in the context of the Vietnam War. Some of the physicists involved in the protest had contributed instead to the International War Crimes (Russell) Tribunal, gathering evidence in Indochina on the allegedly genocidal character of the US bombing. In reconstructing the history of the contestation, this article contends that the conflict was an opportunity for advertising diverging political stances in the rebellious atmosphere of early 1970s, as much as to convey competing views about the physicists' influence on global affairs. In particular, while JASON members boasted that their advisory roles stifled bellicose approaches, the protesters recalled the merits of independent inquiry and advocacy “from below” the elitist sphere of government advice, describing these as a better way to advance principles of global social justice.

Key words: Radical science; JASON; Science diplomacy; Vietnam War; Russell Tribunal; Protest; Scientific advice; Advocacy; Global social justice.

It was physicists who produced laser bombing; it was physicists who invented the electronic battlefield; it was physicists who devised plastic anti-personnel bombs, “gravel”, “spider mines”, “daisy cutters”—and a plethora of other perversions. Why shouldn't the public distrust them as a race? They do little to purge their own ranks of the monsters who contrive such appalling inhumanities.¹

In the summer of 1972, US physicists working for the government advisory group JASON had to confront angered colleagues in Europe contesting their presence and presentations at academic meetings. When these prize-winners and heads of prestigious US laboratories visited the old continent to deliver their lectures, not

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only did the protesters disrupt their talks, but they also prevented them from finishing. They did so because they considered it outrageously nonchalant to report on recent theories regarding sub-atomic particles after having advised on the bombing strategies decimating Vietnam's population. The tense encounter between JASON members and their antagonists in Europe caused a sensation at the time. It is worth revisiting it today in light of the availability of documents shedding new light on the physicists' positioning and on contestation and mediation within the physics community in relation to the conflict.²

This article contends that the fractious meetings represented an opportunity to advertise competing political stances in the rebellious atmosphere of early 1970s, as much as to convey opposite views about how physicists should contribute to world affairs. Historians of physics (and science more generally) have recently critiqued the simplistic adoption of the buzzword "science diplomacy" in various social, political, and institutional contexts for its potential to overstate the positive impact of scientific advice in the international arena.³ Their research has exposed ideological assumptions and political orientations underpinning this term, especially because of the cherry picking of the few isolated historical cases that show an unrelenting positive influence of science diplomacy in international relations.⁴ On the contrary, some historians have disputed this supposedly idyllic view, pointing out that science diplomacy has also generated exchanges and advisory activities in research and development for military purposes; the creation of cultural, political, and economic hegemony; forms of transnational scientific-political competition; and dynamics of planning scientific research for political purposes.

Moreover, far too often science diplomacy literature singles out initiatives "from above," that is, by establishment scientists and elite research groups who exercise direct influence on external state relations through advice to governments, claiming to be able to propel better decision-making through scientific analyses and approaches. To develop a more persuasive narrative, we suggest examining comparatively the diverging diplomatic agendas of scientific groups contemporaneously acting "from below" the elitist sphere of government advice and engagement in non-governmental initiatives that use scientific inquiry to advance their social agenda.⁵

Examining these competing approaches in the case of JASON and its antagonists in Europe is particularly fruitful given that the Vietnam conflict shaped a compelling dilemma for the physicists involved, namely if in advancing measures of global social justice, what they thought of as advice from above was more effective than advocacy from below. Since the 1971 revelations that disclosed its existence to Western audiences, JASON has received considerable attention in historical accounts that have placed this contribution in a generally positive light. Its physicists enjoyed a considerable amount of independence, and the exercise of this autonomy had a beneficial impact, allowing them to scientifically elaborate new approaches to bombing, and also stifling some of the more bellicose military

projects evaluated by the US administration to end the Vietnam War, including the use of nuclear weapons.⁶

We show here that this stance produced a vibrant debate at the time exactly because the physicists antagonizing JASON members were not convinced at all about the positive repercussions of this approach. By then some of these antagonists in Europe and the US had already developed their own independent research on Vietnam, based on the findings of the grassroots International Tribunal on War Crimes (also known as the Russell Tribunal). This research revealed to them (and wider audiences) the use of new civilian-targeting explosives against the Vietnamese. Therefore, they concluded that even if the JASON group members had stymied plans to use nuclear weapons, they were still complicit in what they viewed as genocide.

The dilemma about their conduct stirred a debate within the physics community. In exchanges with their contesters, JASON physicists elevated their argument that their advice had *prevented* the use of nuclear weapons as evidence for their supposed positive influence on world affairs. Their antagonists claimed instead that this influence was illusory as, in fact, the Pentagon had swayed them into giving their consent to the use of civilian-targeting weaponry. In turn, they vouched support for research-based campaigning as a more effective means for physicists to influence decision-making, especially by publicly exposing the crimes perpetrated through civilian bombing.

We conclude the article with an analysis of the exchange that followed the confrontation between physicists from above and from below, to show a diplomatic effort to restore a dialogue in a divided community. Notwithstanding the search for a common ground, the antagonists rejected the view that expert advice alone offered a solution to the Vietnam crisis (and world affairs more generally). The critique strengthened the conviction that physicists should therefore exit the “ivory tower” that secret advice to governments and military authorities built around them and put their research skills at the service of independent advocacy campaigns as they had done with the Tribunal activities. This led them also to attack the supposedly “pure” sphere of physics research too.⁷ By seeking to present in Europe on particle physics, JASON physicists reaffirmed an implicit separation between the advisory work on the Vietnam War, and their research on particle physics. Those protesting claimed instead this separation to be artificial. Elaborating further on the social function of pure science, they thus sought to shed light on the hidden connections between advisory work and the pursuit of particle physics.

JASON: Government-Sponsored Advice on Vietnam Bombing

Until 1971, the name JASON had apparently referred exclusively to the Greek mythological hero leader of the Argonauts. Everything changed with the publication in that year of the exposé contained in the so-called Pentagon Papers of the *New York Times*. Comprising leaked secret documents recalling studies

commissioned by the US Secretary of Defense Robert Strange McNamara, the papers shed light on the pivotal role of a selected group of high calibre scientists who since 1959 had advised the Department of Defense (DoD) on the conflict in Vietnam under that covert name. In her monograph on JASON, Ann Finkbeiner describes the group as “a top-secret bunch of academic physicists” involving “*la crème de la crème*” of physics departments at Princeton, MIT, Stanford, Columbia, Chicago, and Harvard. “Of ... one hundred Jasons over time, forty-three have been elected to the National Academy of Sciences; eight have won MacArthur awards; one won mathematics’ Fields Medal; eleven won Nobel Prizes.”⁸

That a selective group of scientists were called in to advise the DoD on matters of scientific and technological warfare was nothing new. Historian of science Everett Mendelsohn has (amongst others) shown how especially the two world conflicts played a conspicuous role in making defence and government authorities call for experts in outlining new strategies for innovating the battlefield. In turn, even if through inevitable over-simplifications, historians have dubbed World War I the chemists’ war because of the innovative use of asphyxiating gases and World War II the physicists’ war because of the key developments of radar (partly started in World War I) and the atom bomb. The beginning of the Cold War marked an even more sustained investment in advisory work. John F. Kennedy’s presidency marked a period of lavish funding for these activities, especially due to anxieties about an alleged widening gap in research and development with the Soviet Union.⁹

Kennedy’s profligacy in science spending made it possible for the DoD research and development organization, the Advanced Research Project Agency (ARPA), to establish a selected advisory group as part its Institute for Defense Analyses (IDA). By the mid-1960s the institute received approximately half a million dollars per year to convene secret summer meetings between a close knit of scientists, many of whom were physicists. This setting explains the hearsay that the acronym JASON referred to it being a sort of vacation exercise for the recruited scientists running from July to November (and all the months in between). It was instead the wife of one of the physicists selected that had suggested naming the group after the Argonauts’ leader.¹⁰

JASON’s main novelty was that its members supposedly succeeded in making defence officials reconsider the use of nuclear weapons in Vietnam and the introduction of new strategies using a scientific approach to bombing issues. This followed the emergence within the group of an anti-Vietnam War component after Lyndon B. Johnson replaced Kennedy as US President. While earlier on, the group had mainly featured a generation of physicists who had played key roles in the development of nuclear weapons and in advisory work on the policy challenges that this new type of weapons defined. Two science administrators playing a key role in the wartime atom bomb project, the Hungarian-born theoretical physicist Eugene P. Wigner and his US colleague John Wheeler, had assembled the group’s nucleus comprising leading wartime physicists such as Hans Bethe, Edward Teller,

and Charles Townes. These five physicists composed the “committee of senior advisers” that coordinated the research activities of the JASON division, which had a higher level of autonomy compared with other scientific advisory organizations. The scientists in the group had the power to collectively choosing research topics from a list of techno-scientific problems that was proposed to them from time to time by the DoD. JASON also comprised of a selected number of theoretical physicists who were Wheeler’s protégés at Los Alamos (Keith Brueckner, Kenneth Watson, Marvin Goldberger, and Murray Gell-Mann).¹¹

By the mid-1960s, JASON had expanded partly due to Townes taking on the role of IDA vice-president, hence assembling “the finest physicists in the United States,” to put them to “work on national security problems.”¹² The advisory role entailed, as recruitment adverts recalled, working in a research environment “free from commercial pressures [and] vexing administrative duties ... that can cramp your effectiveness.” It allowed “focus[ing] on critical problems,” often with a considerable degree of independence.¹³ Attracted by the adverts many young physicists joined the group, which now met regularly at leading US government research sites like the Lawrence Berkeley National Laboratory in California.

In 1966, Townes appointed the University of California (Santa Barbara) physicist Harold (Hal) Warren Lewis to become the JASON chair. His role is particularly telling of the ongoing generational change, as Lewis had refused the loyalty oath against communism, and opposed the rise of McCarthyism as a student at the University of California in Berkeley.¹⁴ Under Lewis’s direction, several physicists manifested their concerns about the situation in Indochina. Donald Glaser disagreed with interventions in Vietnam and Greece and his government’s support to Israel. Notwithstanding Marvin Goldberger’s role as chair of JASON’s steering committee from 1959 to 1966 (and of the US President’s Scientific Advisory Committee from 1965 to 1969), he too was critical of the military involvement in Vietnam, defining it as “completely immoral.”¹⁵

Lewis looked for ways to bring these concerns into JASON’s advisory work. Vietnam featured as a key item in its activities following the Gulf of Tonkin crisis and the beginning, in March 1965, of Operation Rolling Thunder. DoD strategists targeted the dense network of jungle routes known as the Ho Chi Minh trail, which allowed military supplies from the North to reach the South of Vietnam providing vital support to the National Liberation Front. Since the trail was a densely populated and mostly rural area of Vietnam, the operation affected civilians. At this stage, defence analysts also considered the nuclear option, but worried that such a decision could lead to a nuclear escalation. The lack of obvious solutions led to exchanges with the scientists involved in JASON.

During the summer of 1966, the groups therefore arranged a series of meetings with DoD, CIA, and White House officials to design a more effective bombing strategy, which in their view could substantially reduce civilian casualties.¹⁶ The result was a report entitled *The Effects of US Bombing in North Vietnam*. The fifteen JASON scientists authoring it, including the 1969 Physics Nobel prize-

winning Murray Gell-Mann, argued that bombing operations had caused an incredibly high number of casualties, but had limited effects in reducing traffic on the Ho Chi Minh trail. In turn, they suggested an alternative through installing an anti-infiltration barrier. Finkbeiner contends that the report was “probably the most categorical rejection of bombing as a tool of our policy in Southeast Asia to be made before or since by an official or semi-official group.”¹⁷

The barrier comprised both a physical barrier (covering from the sea, westward, across the coastal plain and up to the mountains), and an air-supported barrier (from the western end of the physical barrier, across the mountains, to Laos). While adopting conventional devices that limited access (for example, barbed wire, minefields), it also comprised state-of-the-art technological equipment (infrared detectors, night vision devices, radar equipment) allowing for the configuration of the Vietnam War theatre as one of the first examples of an “electronic battlefield.” The air-supported barrier was exemplary of this approach in that it involved an integrated system of noise, seismic, infrared, and magnetic detectors. The data collected by these sensors travelled to a surveillance centre located in the Nakhon airbase (Thailand). Processed by IBM mainframe computers, the data showed the enemy position, and allowed US aircrafts to bomb the sites occupied by the Vietcong. In September 1966, McNamara gave full mandate to the construction of the anti-infiltration barrier (now codenamed Practice Nine) and, on 7 September 1967, he publicly announced its existence.¹⁸

Importantly for what we explore next, this decision followed the publication of another report, S-266, signed by four other physicists associated with JASON (including the UK-born theoretician Freeman Dyson) examining the option of using tactical nuclear weapons in Vietnam. The report contended that their use was not advisable based on both short-term gains (that is, the lack of industrial and military installations justifying it) and long-term consequences, especially the possibility of nuclear escalation. Dyson later argued that the study demonstrated that avoiding a nuclear confrontation extended to other countries (and possibly global) would have been virtually impossible.¹⁹

The combined contribution offered by JASON through the two reports allegedly stymied more horrific DoD bombing plans and offered a way out of the nuclear option. JASON group members appeared therefore to have found more viable and humane means for US warfare activities, leading to end the conflict and limit loss of civilian casualties. However, other physicists, both in the United States and Western Europe, cast doubts on these conclusions as competing research revealed that military operations still indiscriminately targeted civilians.

The Russell Tribunal: Non-Governmental Advocacy from Below

Scientists concerned about the Vietnam conflict knew nothing about JASON until 1971. Yet, they did not wait for the *New York Times* revelations to manifest their opposition to the bombing campaigns. This led to a series of initiatives propelling

an analysis of the role of science in general, and physics more specifically, in the conflict—hence contributing to the ongoing configuration of a transnational group of scholars, in which physicists were particularly prominent. While this group shared the same interest of JASON physicists in finding a solution to the Vietnam War, their approach was diametrically opposite, in that they understood the importance of conducting scientific enquiries on the ground within non-governmental initiatives. They also believed it important to reach out to decision makers by building public pressure through enquiries and campaigning from below the sphere of government advice (and stimulating protests if they failed to act based on what newly acquired evidence showed).

From 1966, the International War Crimes Tribunal (also known as the Russell Tribunal) investigated war activities in Vietnam. This organization emerged through a pre-existing grassroots network of transnational political militancy associated with the British philosopher Bertrand Russell. The philosopher had by then already contributed to campaigning against nuclear proliferation by writing (with Albert Einstein) the 1955 Manifesto highlighting the dangers that nuclear weapons posed to the world, and paving the way to the non-governmental Pugwash Conference on Science and World Affairs. With the manifesto out, Russell started campaigning for ending the conflict in Indochina too, which led to an intense exchange with the Vietnamese leader Ho Chi Minh, US President Lyndon Johnson, and the members of the UN Security Council.²⁰

Following these exchanges, in 1966 Russell set up the tribunal, which welcomed intellectuals from various parts of the world, including the French Jean Paul Sartre, the Yugoslav Vladimir Dedijer, and the Polish Isaac Deutscher. The tribunal welcomed Eastern bloc intellectuals too, and leftist politicians and scholars in Italy, West Germany, and the United Kingdom. Its connections extended to socialist organizations in Asia and the National Liberation Front of South Vietnam.²¹

What made the tribunal more innovative than previous transnational campaign (except for the war in Korea) was that it sought to get physicists involved in assessing if the US military had violated the rules of international law through their operations in Vietnam. Five commissions went to Indochina to carry out investigations and collect data on alleged war crimes. The physicists focussed on the new types of weapons used and assessed whether they were against war conventions. Other studies included an analysis of whether the bombing targeted civilians, and prisoners had received humane treatment. The Tribunal had the ambition to build a case for an official international trial similar to the International Military Tribunal set up in Nuremberg (Germany) at the end of World War II.²²

From December 1966 to April 1967, a team of volunteering scientists travelled to Vietnam to start investigations. Some, like the French radiobiologist Abraham Behar, the French surgeon Jean-Michel Krivine, and Swedish physicians Alex Hojer and John Takman, focussed especially on the bombings' health impacts.²³ European physicists also played a prominent role in the investigations. Two, Jean-

Pierre Vigier and Marcello Cini, sought to provide a more refined understanding of the explosives utilized. US intelligence agencies were familiar with both, due to their involvement in communist organizations. Vigier was one of the leaders in the French radical communists who since the 1950s has campaigned against the growing influence of US science patrons in France. The Rome-based Cini was one of the few Italian communist physicists who, in the light of his studies on nuclear particles' interaction attended the prestigious Rochester Conference in the US. His opposition to the Russian invasion of Czechoslovakia in 1968 led to his expulsion from the Italian communist party, and the launch, together with other former party members, of the radical leftist broadsheet *Il Manifesto*.²⁴

Cini, Vigier and other colleagues (such as the French mathematician Laurent Schwartz and the Japanese physicist Shoichi Sakata) put their knowledge at the service of the tribunal by assessing the effects of phosphorus, napalm, and fragmentation bombs. They concluded that these explosives aimed primarily to kill civilians rather than hitting industrial and military infrastructures. Vigier took responsibility for a study about "Technical Aspects of Fragmentation Bombs," revealing the modes of functioning of pineapple and guava bombs. The specific technical characteristics of these ordnance ammunitions made them particularly adapted to hitting the civilian population (as they "could not destroy blocks of concrete or steel but were mainly designed to kill people").²⁵ Cini's personal notebook also shows an examination of these new weapons and provides descriptions, data and calculations regarding the power of detonation, the height at which the bombs were dropped, the bomb dispersal trajectories, the radiation pattern of "pellets" or "steel balls" inside each fragmentation bomb.²⁶ These physicists also interacted with Tribunal physicians seeking to understand the effects of fragmentation bombs on human bodies and the related injuries. Cini analysed various types of unconventional weapons used by the military and collecting evidence on their use in various areas of Vietnam. He also researched on the chemical composition and incendiary properties of phosphorus and napalm bombs.²⁷

The Russell Tribunal investigators thus succeeded in reconstructing the bombing strategies based in part on the bombs' technical specifications. Their reports highlighted the deadly sequence of military operations decimating civilians (first reconnaissance flight, then bombardment with high explosive and napalm, and finally delivery of fragmentation bombs). Vigier also submitted extracts from the *Manual of the US Air Force* devoted to *Fundamentals of Aerospace Weapons Systems* showing how US forces had prioritized bombing in light of its psychological, social, and economic effects on civilians.²⁸ Their denunciation was particularly important exactly because the US government denied using Cluster Bomb Units (or CBUs).²⁹

The Tribunal scientists also exposed the environmental issues associated with the conflict, denouncing the use of defoliants to destroy the jungle vegetation distinctive of the Ho Chi Minh trail. Cini's personal notebook contains notes on

the chemical composition and degree of toxicity of various substances including the infamous Agent Orange (2.4.D and 2.4.5.T), the herbicide Dinitro-o-cresol (DNOC), the highly toxic Calcium Cyanide (CaCN_2) and the pesticide Sodium Arsenite (Na_3AsO_3). Together with his colleagues, he examined the impacts of strategic bombing on dikes and irrigation systems constitutive of rice fields and plantations, hence exhibiting their effects on the food supply.³⁰

After the Russell Tribunal completed the inquiry, it unsurprisingly found the US government and allies in the region, including Australia, New Zealand, South Korea, the Philippines, Thailand, and Japan guilty of aggression towards the Vietnamese people. The eleventh verdict of the Tribunal therefore indicted the US government of genocide. Over the years, the Tribunal's unofficial diplomatic effort has received scholarly attention, and while some have stressed its weaknesses as an instrument to inform more directly decision-making, also claiming its verdicts to be biased, others have emphasized its actions as pioneering the enactment of global social justice measures. In particular, it forced US government authorities, including President Johnson, to respond to the research-based indictments from below, and it propelled the European governments' mounting opposition to the Vietnam conflict. US authorities also sought to silence this criticism through their contacts in embassies in Western Europe and Africa.³¹

One of the long-lasting impacts of the Tribunal was also to pave the way for other groups that committed to similar activities. A Tokyo-based group sought to examine the logistical support that the Japanese government offered to US forces. From December 18, 1970, to January 2, 1971, the World Federation for Scientific Workers (WFSW) sent a commission to Vietnam composed of, among others some well-known radical scientists such as Hilary Rose, Steven Rose, and Richard Levins. The WFSW militants were also interested in promoting projects of information exchange with the Vietnamese, also on items of interests such as pest control and ecological chemistry.³² Upon their return from Vietnam, the biologists Levins and Richard Lewontin founded the militant organization *Science for Vietnam* seeking to extend nationally and transnationally the campaign against the crimes committed by the US forces and put pressure on decision-makers to halt the bombing.³³ Physicists in France also took an interest in the Vietnam issue, establishing the radical group *Collectif Intersyndical Universitaire D'Orsay: Vietnam-Laos-Camboge* (CIU), located in the university hosting France's main national nuclear physics laboratory, the Orsay Nuclear Physics Institute.³⁴

When in 1971 the Pentagon Papers finally revealed what JASON members had done in relation to the Vietnam War, those who had investigated the bombing in the context of the Russell Tribunal were angered to learn that they had agreed to give physics lectures and attend workshops in Europe in the summer of 1972. Indeed, they would not let that happen.

JASON in Europe

The protest against the visit of JASON members to European universities and research organizations was one of the highlights of that summer. University students and lecturers, especially from physics departments, now asked these illustrious physicists to engage in a public exchange on what they had done for JASON. The Collège de France had invited Murray Gell-Mann to present on his theory of quarks on 13 June, but on that day CIU activists distributed a leaflet denouncing his involvement in JASON and asked him to explain his advisory role. Since Gell-Mann refused to answer questions, the protesters prevented him from delivering the lecture stressing that he had assisted in understanding “how one can most effectively wound, mutilate, or kill the maximum number of civilians without employing ... strategic or tactical nuclear weapons.”³⁵

In July, Gell-Mann’s presence at the summer school of Erice (Sicily), together with John Wheeler, also produced tensions with the participants, while that on theoretical physics organized at the Southern Corsican village of Cargèse ended one week before the announced ending because of Sidney Drell’s refusal to discuss JASON.³⁶ He eventually had to cancel another scheduled lecture at the Institute of Physics in Rome, and when, in August 1972, the Varenna International Summer School started, its participants drafted a Statement on Vietnam. The former Russell Tribunal contributor Cini, and another physicist who played a pivotal role in the protests, the French Jean-Marc Lévy-Leblond, elaborated and signed the document that the school attendees unsuccessfully attempted to have published on *Nature* and *Europhysics News*.³⁷ They did succeed, however, in persuading the school’s organizers to renounce to the grant that the North Atlantic Treaty Organization (NATO) made available for these summer meetings.

These tensions escalated when protesters disrupted another NATO-sponsored workshop entitled *Development of the Physicist’s Conception of Nature* and held on September 18–25 at the International Centre for Theoretical Physics in Trieste (Italy). The meeting made of the defence alliance another target for protesters. By inviting JASON-affiliated physicists, NATO appeared to deliberately ignore the widely publicized revelations (and later polemic) on their controversial advisory role.³⁸ The riots that followed startled the physics community and the citizens of Trieste alike. Founded by the Italian physicist Paolo Budinich, and directed by the Pakistan physicist Abdus Salam, the International Centre for Theoretical Physics had explicit ties to Third World countries, and promoted scientific training for development purposes.³⁹ This orientation did not save it from contestation though. Before the conference, the CIU contacted the workshop organizers, and unsuccessfully urged them to reconsider the participation of JASON members. When they refused to do so, students and scientists occupied the university’s main lecture hall, hence not taking note of Budinich’s instruction that no meeting of a “political character” should take place in the institute’s premises.⁴⁰ An attempt to move the meeting to another building guarded by armed security led to violent clashes with

the police. In an agitation pamphlet, the protesters stressed once again that they were unwilling to discuss “purely scientific” subjects. Therefore, the NATO workshop aiming to celebrate Paul Dirac’s seventieth birthday could not take place.

News about the protests in Europe travelled to the United States. Varenna’s Statement on Vietnam was distributed at the proceedings of a Conference on High-Energy Physics organized in Batavia, IL, and laid the ground for the publication in December 1972 of the booklet entitled *Science against the People: The Story of Jason* by the Berkeley chapter of the US radical science group Scientists for Social and Political Action (SESPA).⁴¹ In turn, the report produced new tensions between JASON members and SESPA activists. In particular, Lewis wrote to the SESPA figurehead Charles Schwartz that by publishing the names of JASON members in the booklet, SESPA had disregarded both “truth” and “minimal standards of human decency” letting individual scientists being harassed even through “anonymous phone calls threatening the lives of children.” To these accusations, Schwartz replied together with fellow activist Martin Brown that the “bombing, burning, maiming and killing of millions of Asian people” that JASON had “deliberately facilitated” justified publishing their names.⁴² The journalistic coverage of the supposed harassment made the debate pivot on the issue of the physicists’ role in the conflict. Unsurprisingly, JASON members and their antagonists once again offered divergent views.

Debating the Physicists’ Influence on the Vietnam War

Whether government advice from above had greater or lesser merit than public advocacy from below is exactly what the two groups disputed after the American Physical Society (APS) journal *Physics Today* prompted a debate on the summer tensions between JASON and its antagonists.

To understand why the journal’s editors encouraged a debate, it is important to briefly recall an ongoing polemic within the APS about giving voice to societal issues, especially regarding the Vietnam War. In 1967, SESPA’s Charles Schwartz had already asked *Physics Today* to publish a letter taking a stand against the involvement of scientists in the production of weapon technologies. When the editorial board rejected it, Schwartz submitted an amendment to the APS constitution to allow its members to debate political issues there. Once rejected, this triggered a heated exchange in the journal. The 1969 APS meeting in New York resulted in the proposal to set up a Division on the Problems of Physics and Society to form an “objective background for independent judgement.”⁴³ The APS division never saw the light of the day, but its leaders agreed to set up a Forum on Physics and Society—a forum being a smaller-scale unit of the society with fewer privileges within the APS. *Physics Today*’s editorial board thus agreed to offer space to controversial subjects like the Vietnam War.⁴⁴

The opportunity came after the publication, in October 1972, of another article on JASON contending that its members had been harassed. The journalist Gloria Lubkin, who authored it, recalled the protests in European research centres, the contestation against Gell-Mann and Drell, and the activities of the Orsay collective. She also claimed—thus introducing a narrative later popularized in other books and articles—that JASON had played a humanizing role in the conflict, instigating a re-thinking through the techno-scientific elaboration of the anti-infiltration barrier concept.⁴⁵

The European protesters tried to advertise their opposing viewpoint in mainstream scientific journals too, drawing on what the Russell Tribunal had done. At the end of October 1972, one of CIU leaders, the French physicist Daniel Schiff, contacted Cini with a plan to write an open letter to the forty JASON members.⁴⁶ A similar attempt by Jean-Marc Levy-Leblond to publish the 1972 Statement on Vietnam on *Physics Today* instigated instead a public exchange between JASON members and their antagonists in Europe.

This was because the journal's chief editor, Harold L. Lewis, rejected outright Levy-Leblond's proposal to publish the Statement, stating that publishing it would have put the journal in the uncomfortable position of "scorekeeper." Yet, he suggested writing a "more useful letter-to-the-editor," acknowledging that "the question of the scientist's involvement with military research is increasingly in the spotlight." Lewis then recalled the recently published article by Lubkin, indirectly inviting him to comment on it and putting a positive spin on JASON's contribution: "What about the studies on nuclear weapon-system tradeoffs by JASON members which some believe made possible the SALT agreements? Was this not a valuable contribution on the part of scientists working with the government and will not such studies continue to be needed to achieve more general weapons agreements?"⁴⁷

Now the Parisian physicist agreed to draft the open letter and contacted Cini, Schiff, the Nice-based French physicist Michel Le Bellac, and their Italian colleague Gianfausto dell'Antonio (of the University of Naples but also from 1969 affiliated to the Princeton Institute of Advanced Studies).⁴⁸ The letter made three claims regarding the responsibilities of JASON. Firstly, even if its members had played a part in non-proliferation treaties like SALT, this contribution did not exonerate them from condemnation for recommending the use of cluster bombs. Moreover, publicly speaking against the Vietnam War before (and offering advice after) did not make the JASON members less guilty. Finally, JASON members believed to "influence American policy" whereas, in fact, this influence was illusory. On the contrary, the from-below scientific inquiry conducted in the context of the Russell Tribunal proved that Vietnam's population was decimated because of this supposed influence.⁴⁹

The original draft went through various rounds of revisions in which the authors agreed to remove weaker points. The final letter kicked off with the issue of non-proliferation and SALT, hence directly addressing (in the negative) Lewis's

question about the positive role played by JASON in nuclear disarmament. A weak claim about how the lack of official information available on JASON justified the “lies and distortion” in antagonists’ propaganda was instead removed. Finally, the antagonists relegated to the end of the letter a disturbing analogy between JASON physicists and the wartime collaborators of Nazi-Fascist regimes, which Hans Bethe had previously rebuked in a letter to Schiff urging instead for a “factual discussion.”⁵⁰

Not only did the *Physics Today* editorial board accept the letter for publication, but Lewis now invited the three JASON physicists cited (Drell, Gell-Mann, and Dyson) to reply. Sidney Drell did, even if he was dismissive of the letter’s accusations and criticised what he viewed as the protesters’ “demand of political and moral purification.” Freeman Dyson admitted instead that the letter presented “a more reasoned criticism of JASON activities than we have recently seen” thus deserving “a reasoned answer.” He stressed however that his involvement was limited to advising against the use of tactical nuclear weapons and that he was proud of what he had recommended.⁵¹

The debate elicited a flurry of correspondence across the Atlantic, especially on the physicists’ contrasting public advocacy and government advice roles. In 1968 the astronomer (and JASON member) Edwin Salpeter replied to one of the letter signatories recalling that for any “scientist devoted to peace” collaborating with military authorities always represents a dilemma. However, JASON had offered advice in the hope to avoid nuclear war. The atrocities in Vietnam were the lesser of two evils.⁵² Goldberger also sought to justify his choice in support of JASON report S-255 recalling that the DoD had not used the barrier as intended. It was now an “add on, and not a substitute” to civilian-targeting bombing operations. The military should therefore be blamed and not JASON.⁵³ Bethe reminded to one of the Italian protesters’ figureheads, Bruno Vitale, his role in arms control since the 1958 Geneva (nuclear) test ban negotiations, hence suggesting that JASON had a legacy in efforts to mitigate warmongering approaches. Bethe also made a distinction between Gell-Mann, who had refused debating with the antagonists, and Drell, who was instead open to discuss these issues. He also distinguished Wheeler and Wigner from the younger physicists who had played a role in designing the anti-infiltration barrier, since these two represented the “far right.”⁵⁴

The debate eventually died down, notwithstanding a *Science* feature article in the issue of February 2, 1973 that attempted once again to cast a positive light on JASON. Another upcoming journalist, Deborah Shapley, now portrayed its members as the victims of an attack, while reiterating their positions as experts eager to remove nuclear weapons from the set of bombing options in Vietnam. Her article gave a hearing to positions both for and against JASON’s advisory role. But the article appeared to go even further to clear its members from accusations, now suggesting that in fact the proposal for the electronic barrier had not come from JASON, but from a collaboration between a Harvard Law School

expert and defence strategists. JASON experts endorsed it only because it further weakened the military's claim that only more carpet-bombing campaigns would have halted infiltration along the Ho Chi Minh trail.⁵⁵ SESPA's Schwartz and Brown attacked the narrative, judging it absolving. JASON members had accepted "the secret and subservient nature of their advisory relationship to the DOD" and "have isolated themselves from any alternative political potential."⁵⁶

Epilogue: The impact of the Vietnam Dilemma on the Physics Community

The debate that followed the meetings between JASON and its antagonists in Europe largely failed to make both groups reconsider their initial positions. Indeed, the dilemma of whether physicists had had a more positive influence by advising the US government from above or charging it of genocide from below continued to haunt the physics community for some time. The evidence mobilized in this paper explains this lack of closure with a divergent understanding on what the best course of action regarding the war in Vietnam had been. Those within the JASON group continued to emphasize the merit of expert advice to decision-makers since they believed this approach to have mitigated warmongering stances. Those who antagonized them perceived this mitigation as illusory since no matter how scientifically and technologically advanced were the weapon systems that JASON recommended to those in a position of power; these systems still killed an indiscriminate number of Vietnamese. Hence, they emphasized instead the merit of their own scientific inquiries conducted from outside government circles, since these investigations had allowed to publicly divulging the crimes committed during the Ho Chi Minh trail bombing and therefore putting pressure from outside on the US government to stop bombing once and for all.

As the distance between JASON members and their antagonists widened, competing views also emerged about how physicists should approach local and global societal issues in the future. In the eyes of those who sympathized with how JASON had handled the Vietnam bombing strategy, physicists should from then on continue to provide ad hoc unbiased, value-free, neutral and pragmatic scientific evaluations of the solutions available, while otherwise restraining from engaging in political campaigning. Hence, some of these highly esteemed physicists increasingly viewed organizations like SESPA, who had intended tying more closely physics and politics by publicly campaigning against the Vietnam War, as a dangerous departure from the tenets of scientific practice. In turn, while the APS agreed to setting up a forum debating societal issues, the room for the critical voices of SESPA and other radical science groups within this forum visibly shrank.⁵⁷

By contrast, those persuaded that advocacy was the way forward, now argued for the physicists in general, and especially young entrants in the profession, to distance themselves from scientific advisory roles that offered justification to despicable operations of powerful governments and their defence agencies.

Moreover, the outrageously nonchalant ways in which JASON physicists had debated sub-atomic particles while having previously advised on bombing strategies, made its antagonists suspicious of what “pure” science really entailed. Following an investigation by SESPA physicist Martin Perl, Cini went on to elaborate on the implication of “pure science” in books and articles. The definition of a pure realm within the sciences (including physics), he argued, defined a path of uneven internal power distribution within the community. In turn, this enabled members of a scientific elite, like Gell-Mann, to transmit dominant values and behaviours to younger generations, while elevating those within this elite to community celebrities. Cini also stressed that these celebrities did not build this status on merit alone, but on their integration into their government’s political-administrative power structures, which (as JASON clearly showed) “wield an enormous power over the entire corporation.”⁵⁸ In other words, scientific advice to governments contributed to introduce in the physics community uneven power relations, which in turn also affected the development of physics as a discipline. Cini thus urged to research more on the historical circumstances that had produced these imbalances within the physics community in the past in order to find ways to rectify them in the future.

The confrontation between these opposing stances and reformation plans did not end with the Vietnam War and re-emerged at later critical historical junctions for the physics community. For instance, after the termination of the Superconducting Super Collider in the mid-1990s, some of the US physicists involved accused their colleagues campaigning to make research more “relevant to society.”⁵⁹ They now considered this public advocacy responsible exactly because their questioning of an investment of uncertain returns in terms of societal impacts had played a role in the project’s dismissal. Currently the arms control and the climate change controversies produce similar impasses within the physics community as contributors to these debates have either sought to enter the “corridors of power” to enlighten politicians on imminent nuclear or climate catastrophes, or they have preferred joining advocacy campaigns in the understanding that public pressure could be more effective.

Hence, the dilemma that the Vietnam conflict presented to the physics community in the 1970s did not just travel with JASON to Europe, but journeyed through time. Yesterday as much as today, its members still embrace opposite predicaments on the best means to assert global influence in practicing “science diplomacy,” from above or from below government spheres, through secret advice or rather through public scrutiny and advocacy.

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