

The mishandling of scientifically flawed articles about
radiation exposure, retracted for ethical reasons,
impedes understanding of the scientific issues pointed
out by Letters to the Editor

Yoh Tanimoto

Dipartimento di Matematica, Università di Roma “Tor Vergata”
email: hoyt@mat.uniroma2.it

Yutaka Hamaoka

Faculty of Business and Commerce, Keio University
email: hamaoka@fbc.keio.ac.jp

Kyo Kageura

Graduate School of Education, University of Tokyo
email: kyo@p.u-tokyo.ac.jp

Shin-ichi Kurokawa

The High Energy Accelerator Research Organization (KEK), Tsukuba
email: shin-ichi.kurokawa@kek.jp

Jun Makino

Department of Planetology, Graduate School of Science, Kobe University
email: makino@mail.jmlab.jp

Masaki Oshikawa

Institute for Solid State Physics, University of Tokyo
email: oshikawa@issp.u-tokyo.ac.jp

Abstract

We discuss the editorial handling of two papers that were published in and then retracted from the *Journal of Radiological Protection* (JRP).^{1,2} The papers dealt with radiation exposure in Date City and were retracted because “ethically inappropriate data were used.”^{3,4} Before retraction, four Letters to the Editor pointing out scientific issues in the papers had been submitted to JRP. The Letters were all accepted or provisionally accepted through peer review. Nevertheless, JRP later refused to publish them. We examine the handling by JRP of the Letters and show that it left the reader unapprised of a) the extent of the issues in the papers, which went far beyond the use of unconsented data, and b) the problems in the way the journal handled the matter.

By its actions in this case, JRP has enabled unscientific, unfounded and erroneous claims to remain unacknowledged. We propose some countermeasures to prevent such inappropriate actions by academic journals in future.

Keywords: retraction, scientific misconduct, unconsented data, Letter to the Editor

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Ethics approval: To write this commentary we used only figures and tables in published (and then retracted) papers and documents obtained through Freedom Of Information requests, and no ethics approval is necessary. Although the retracted papers use data unconsented for research, the Committee on Publication Ethics (COPE) states that it is possible to publish letters on such retracted papers in the context of journalology.

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1 Introduction

In this commentary, we examine the treatment by the scholarly journal *Journal of Radiological Protection* (JRP) of critical comments on two papers published by JRP.^{1,2} The two papers (henceforth the Papers, and Paper 1 and Paper 2 for separate reference) were both jointly authored by Makoto Miyazaki and Ryugo Hayano (hereafter abbreviated as M&H). The papers examined individual external radiation doses of Date City residents after the Fukushima nuclear power plant accident.

The Japanese government utilized additional yearly radiation doses to determine which areas were contaminated and to design decontamination plans. The additional doses were estimated on the basis of the ambient dose (micro Sv/h) with the assumption that a resident would be spending 8 hours outdoors and 16 hours in a wooden house with a shielding

coefficient of 0.4 each day, as expressed in the following formula.⁵

$$\begin{aligned}\text{Estimated additional dose} &= (\text{Ambient dose} - \text{background dose}) \times (8 + 16 \times 0.4)/24 \\ &= (\text{Ambient dose} - \text{background dose}) \times 0.6\end{aligned}$$

This formula has important social and political consequences, because if the coefficient were smaller than 0.6, the necessary amount of decontamination effort would be reduced (as a political decision). In Paper 1, M&H claimed the actual coefficient to be 0.15, by comparing individual doses measured with Glass Badges and the ambient doses estimated using airborne surveys. Based on this result, in Paper 2, they estimated the lifetime dose by extrapolating the ambient dose to 70 years.

After the Papers had been published, a number of serious issues were pointed out, which can be broadly classified as “scientific” and “ethical”:

- Scientific issues include, among others, anomalies in box-and-whisker plots, existence of figures for which no corresponding data were confirmed to exist in official records, unfounded underestimation of lifetime doses, unsupported denial of the effect of decontamination, and confusion between median and mean. These were pointed out in four Letters to the Editors⁶⁻⁹ submitted to JRP. The first Letter (Letter 1) was officially accepted. The other three Letters (Letter 2, Letter 3 and Letter 4) were all provisionally accepted after peer review.
- The main ethical issue concerns the use of personal dose data without consent. This was pointed out by local residents of Date City, who were the subject of the studies of the Papers.

JRP retracted the Papers on 28 July 2020, citing as grounds only the ethical issue noted above. It then refused to publish the already formally or provisionally accepted Letters. The argument against publication of the Letters by JRP was thin and inconsistent, as we will see in Section 5.1. The scientific issues are serious, are distinct from the aforementioned ethical issue, and were not resolved by the retraction of the Papers due to this ethical issue. The treatment of the Letters by JRP hindered healthy scientific communication, the promotion of which is supposed to be the mission of scholarly journals. The handling of the Papers and the Letters by JRP is at best questionable. We give a summary of the problems involved in this process in Box 1.

The study reported in the Papers was carried out upon request by the then Date city mayor,¹⁷ and the results were sent prior to publication to the Chairperson of the Nuclear Regulation Authority of Japan.¹⁸ Following publication, the invalid conclusions in the Papers were mentioned by the National Council of Radiation.¹⁹ Furthermore, the Date City mayor also referred to the results of the Papers (while not explicitly citing them) and suggested that no decontamination was needed for a large part of Date City.²⁰ This shows that there was a huge political interest in such results, and indeed, the Chairperson of the Nuclear Regulation Authority insisted that the collected data in the Papers were still valid even after many problems with them were pointed out.²¹ In this situation, it was not only scientifically essential but also socially critical for JRP to carefully scrutinize the content of the Papers. If it turned out that the results were invalid, this should have been clearly recorded and shared. However, as we will see, JRP failed to do so.

Box 1: Summary of the problems addressed in this paper

- The peer-review process of the original papers appears to lack rigor. As we will see, the issues in the Papers are numerous and some of them are rather obvious (see Section 3). Yet a comparison of the preprints of the Papers with the published versions shows that very few changes were made to the latter, indicating that there was little to no feedback from the referees about the Papers. This may have been caused by the system at JRP where the authors can recommend reviewers.
- The retraction notices^{3,4} and the editorial¹⁰ contain many errors, as pointed out in another Letter (Letter 5).¹¹
- It is unreasonable to refuse the publication of accepted or provisionally accepted Letters. Letter 1, submitted in 2018, was kept on hold for an unreasonably long period of time. JRP insisted that it has a policy to publish a response by the original author(s) together with any critical Letter. However, if the original author(s) do not respond within a reasonable time frame, as in this case, it should publish the Letter without a response. The handling by JRP of the Letters is examined in Section 5.1.
- The position taken by JRP, i.e. that revoking its undertaking to publish the Letters was justified because they referred to papers derived from unethically collected data, is unacceptable: this would mean that the description of any publication that involves unethical conduct would be proscribed.
- JRP failed to fulfill its responsibility as a scientific journal by disregarding scientific problems pointed out in the Letters, which had been officially and provisionally accepted. JRP refused to publish the Letters, claiming that “it was not felt possible to independently verify with certainty whether or not the four Letters were free of the use of the ethically inappropriate data.”¹⁰ This reveals that it decided not to publish the Letters without fulfilling its responsibility to clarify the allegations.
- Readers of the now-retracted papers have not been fully apprised of the extent of the concerns about their integrity. At present, readers would believe that the unconsented use of the data is the only problem with the papers. Though unacceptable, retraction notices commonly fail to report all unresolved concerns, see e.g. Grey et al (2021).¹²
- JRP was reluctant to assess and resolve publication integrity concerns independently from the institutional review. Apart from the question of misconduct,¹³ scientific journals should take responsibility for the content of what they publish, because this is what most concerns their readers, and therefore should be prioritized (see¹⁴). Institutional reviews are also often incomplete, poorly configured and opaque.^{15,16}
- COPE, an organization of scientific journal editors and publishers established to discuss issues related to publication ethics, decided that “some of the data were unconsented such that none of the data should be used in any future analysis”. This makes critique of ethically problematic papers impossible.
- COPE only addressed formal journal processes, rather than actual outcomes (such as notifying readers of the full extent of concerns and providing them with a complete assessment of concerns raised).

The rest of the present paper is organized as follows. In Section 2, we review the relevant background and the status of the Papers and the Letters, and clarify the ethical issues in the study, including the one that led to the retraction of the Papers. Section 3 summarizes the main scientific problems in the Papers that are reported in the Letters. In Section 4, we summarize the investigations into the Papers that were carried out at three relevant institutions. These sections together give the background against which and framework within which the main issue, i.e. the handling of the Papers and the Letters by JRP, is evaluated, which is addressed in Section 5. Section 6 concludes our discussion.

2 The original Papers and Letters to the Editor

We give here an overview of the status of and issues in Papers 1 and 2,^{1,2} along with a summary of the events related to them. It is necessary to reconstruct the course of events based on primary sources, including official Date City documents produced before the issues in the Papers were revealed, because the Papers contain a number of errors and incorrect statements, the official statements by the universities that carried out investigations into the Papers are insufficient and in some parts incorrect, and the statements by JRP and its publisher IOP Publishing (IOPP) turned out to be incorrect or inconsistent (as we will see in the later sections). See also the timeline in the supplementary material,

2.1 Background

The Fukushima Daiichi Nuclear Power Plant accident, triggered by the Great East Japan Earthquake on 11 March 2011, released a large amount of radioactive materials that contaminated a wide area. Many residents in the areas close to the power plant evacuated, while some municipalities did not order evacuation and the residents remained in their homes. Date City, in Fukushima Prefecture, is situated about 50 km northwest of the power plant. A part of the city was heavily contaminated and was declared to be one of the “specific spots recommended for evacuation” (estimated 20mSv/y as of 30 June 2011), while in other parts of the city the radioactive level remained relatively low. In August 2011, Date City distributed individual radiation dosimeters (Glass Badges), supplied by Chiyoda Technol Co., to children and pregnant women. This monitoring program was then extended to citizens of all ages^{22(Chapters 2,3)}.

M&H used the data collected from Glass Badges to write the two Papers. The protocol for this research was submitted by Akira Ohtsuru (the then head of the department Makoto Miyazaki belonged to) to Fukushima Medical University (henceforth FMU) on 2 November 2015, and it was approved by FMU’s ethics committee on 17 December 2015. Paper 1 was submitted to the *Journal of Radiological Protection* (JRP), the official journal of the Society for Radiological Protection (of the United Kingdom) on 18 August 2016 and was published on 6 December 2016. Paper 2 was submitted to JRP on 8 January 2017 and was published on 6 July 2017. These Papers were retracted on 28 July 2020 on ethical grounds. However, as we will see below, the course that the Papers took is characterized by many anomalies and unusual events that go beyond the ethical problem that led to their retraction.

2.2 Noncompliance with the protocol

If a study involves human participants, the researchers are required to write a protocol, to submit it to the ethics committee of their institution for approval, and to follow it closely in the course of the study. In Japan, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Ministry of Health, Welfare and Labor (MHLW) have issued Ethical Guidelines for Medical and Health Research Involving Human Subjects.²³ In addition, universities and research institutes usually have their own local rules. Any study involving human participants can start only after the approval of the protocol by the ethics committee of the research institute. This rule was violated by the authors of the Papers.

First of all, Glass Badge data were provided to M&H by Chiyoda Technol Co. on 20 February 2015,¹⁷ well before the protocol was submitted. These data contained the Glass Badge data from August 2011 to June 2014, together with personal information such as the name, date of birth, sex and address of the participants. Officially, the data were provided to the authors to improve the analysis methods of the company. However, M&H analyzed these data and communicated the results to Date City using figures almost identical to those that later appeared in the Papers.

On 12 August 2015, Date City provided Glass Badge data from July 2012 to June 2014 together with personal information with respect to decontamination to M&H (these data were supposed to have been anonymized, but it was suggested that Ryugo Hayano had data including precise addresses of the individuals^{17(p.8)}). A letter requesting that the data be analyzed and the results written up in academic papers was sent from the then mayor of Date City to Makoto Miyazaki on 23 October^{17(p.3)}. Interestingly, the letter was dated 1 August, i.e. before the data were actually given to M&H by Date City. That the date had been falsified was confirmed^{17(p.5)}.

On 21 October 2015, Hayano sent preliminary results to the then Chairperson of the Nuclear Regulation Authority (NRA) of Japan,¹⁸ saying that they were writing up papers based on the data from Date City, and that he would provide these to the Chairperson of the NRA because the results could be useful for regulation purposes.²⁴

All of these developments occurred before the authors submitted the research protocol to FMU (2 November 2015), indicating that M&H had started and finished most of the analysis for the paper before they obtained the ethical approval. Although FMU confirmed this fact,²⁵ it decided that these acts by M&H did not constitute a grave infringement or negligence, and cleared them of the allegations.

In addition, M&H had planned in their protocol to study the correlations between personal external and internal doses. This study has never been published, despite the fact that Miyazaki said that they did not find significant correlations^{26(e0021, meeting minutes)}. This is puzzling, because the absence of correlations was the expected result according to the protocol. Not publishing the result of a conducted study is also a violation of the research protocol, and also goes against the ICMJE recommendations²⁷ as well as the Declaration of Helsinki.²⁸

2.3 Ethical problems

Apart from the incongruence with the research protocol, the Papers have many serious ethical problems. The most important one is that many of the citizens of Date City whose radiation

dose data were provided to the authors did not give consent for the data to be used for research. The dose data given to M&H (that have been made available through a Freedom of Information (FOI) request²⁹) contained a column that shows consent. The negligence of the column clearly goes against any ethical standard, and violates the research protocol, FMU’s ethics code and MEXT and MHLW’s Ethical Guidelines for Medical and Health Research Involving Human Subjects.

In addition, although M&H had promised in their protocol²⁹ to inform the citizens about the study through the Date City website and the city journal, they did not do so. The citizens of Date City were not informed of the study or given opportunities to revoke their consent for their data to be used for research.

Furthermore, M&H did not disclose their conflicts of interest properly. Makoto Miyazaki was a policy adviser to Date City, and he analyzed data and published papers in international journals to publicize the results at the request of the then Date City mayor. The former is not declared in Paper 2, while the latter is not stated in either of the Papers (Paper 1 states that “Date City mayor’s office entrusted the data to the authors” in its Ethics statement, but it is unclear whether the research was requested by the City mayor or not). As with any reasonable editorial policy, IOPP, the publisher of JRP, requires authors to disclose conflicts of interest, including consultancies, in an acknowledgements section.³⁰

It should also be noted that the authors declared in the protocol that they would delete the research data after the completion of the study, rather than conserving them. Although earlier guidelines on epidemiological research by MEXT and MHLW required deletion of data after a study, by the time of the submission of the protocol to FMU (2 November 2015), these guidelines had been replaced by the Ethical Guidelines for Medical and Health Research Involving Human Subjects (whose article on data conservation had taken effect on 1 October 2015)²³ The new guideline requires the conservation of research data for as long as possible. Accordingly, FMU updated the rules for its Ethics Committee and for research misconduct in May 2015. This means that the authors had to follow the national level and university level guidelines, and to conserve their research data. However, instead of following these binding guidelines, however, they claim that they deleted the data on 23 October 2019.²⁵

2.4 Letters to the Editor

In August 2019, Shin-ichi Kurokawa (SK) submitted Letter 1 to JRP, pointing out several issues in Paper 2 including the contradiction between Figures 6 and 7, inconsistencies in various parameters and possible underestimation of the lifetime doses. It went through a review process and was provisionally accepted in November 2018. As the authors of the criticized paper, M&H were invited to respond to Letter 1. Instead of submitting an answer Letter to clarify the points raised in Letter 1, however, M&H proposed to JRP that they would submit a corrigendum. JRP agreed to their proposal and decided not to publish Letter 1. This is unusual, because this would mean that JRP would not publish a (provisionally) accepted work on request by the authors of the original papers that the work criticizes. Upon protest by SK, JRP reversed its decision and promised that it would publish Letter 1 even if the original paper were retracted. Letter 1 was formally accepted on 18 March 2020.

In the meantime, investigations by the University of Tokyo (UTokyo) and FMU had begun. The investigations by these universities concluded in July 2019.

Letters 2, 3 and 4 were submitted to JRP between January and March 2020. The Letters pointed out numerous technical issues in Papers 1 and 2 (the details are given in Section 3). These Letters were all provisionally accepted by April 2020. Although JRP told the Letter authors that it was waiting for a reply from the original authors (M&H), it later claimed on various occasions that the Letters had been “on hold” because the investigation by Date City was ongoing.

Eventually, despite the fact that all the Letters were officially or provisionally accepted, JRP reversed its decision and withdrew all Letters, claiming that “it was not felt possible to independently verify with certainty whether or not the four Letters were free of the use of the ethically inappropriate data”. The fact is that it did not conduct any verification, as we will see in Section 5.1 in detail (see also the timeline in the supplementary material).

3 Errors in the original Papers

Before elaborating on the issues with JRP’s editorial processes, we summarize here the technical problems in Papers 1 and 2. The main conclusions of the present paper do not depend on the details in this section, and the reader may skip it if s/he is mainly interested in the problems with the editorial processes. The Papers contain obvious errors and design flaws that can be verified by checking only the figures and tables in the retracted papers and public documents released by Date City, without looking at the original unconsented data. These issues were pointed out in the Letters.^{6–9} As explained in 2.4, all the Letters had been provisionally accepted (the first Letter⁶ was formally accepted), and the referees agreed that the authors would have to provide explanations for the issues pointed out in the Letters. Yet, JRP retracted the original Papers solely on ethical grounds and without mentioning most of the scientific errors.

We will outline below some of the most important flaws pointed out in the Letters that affect the main conclusions of the Papers. Table 1 summarizes the major issues. These are in no way exhaustive.

Table 1: Important flaws in Papers 1 and 2

Paper	Figure	Comments
1	4a-f	Box-and-whisker plots of individual dose rates plotted against ambient dose rates in various periods
2	5A-C	Box-and-whisker plots of the cumulative individual doses of Date City in Zones A, B and C, with estimated 1-, 50- and 99-percentile curves
2	6	Box-and-whisker plots of individual doses of 425 people who lived in Zone A, whose houses were decontaminated during Q3 of 2012, with the curve of the estimated median grid dose
2	7	Box-and-whisker plots of the cumulative individual doses of the residents in Figure 6, with the estimated cumulative median dose

3.1 Inconsistencies in the box-and-whisker plots

A box-and-whisker plot displays the distribution of data by showing certain percentile values. In the six panels in Paper 1¹(Figure 4), each plot in the panel shows the distribution of the Glass Badge data of the participants who are registered in an area with a certain ambient dose rate in a period, and the upper whisker shows the 99-th percentile, as claimed in Paper 1¹(First paragraph, Section 3). Outliers are those who had higher than the 99-th percentile value or lower than the 1-st percentile value.

In Figure 4a, the bins with 1.35 and 1.45 $\mu\text{Sv/h}$ contain less than 200 and 400 participants respectively. Nevertheless, there are 4 and 6 points indicating upper outliers above the upper whisker. This is impossible, because there should be only two and four outliers, respectively, for these bins. There are similar issues in other figures. This shows that the plot of these figures is unreliable. Similar inconsistencies in the percentile values are found in several other parts of Papers 1 and 2.

3.2 Figures for a period with no official record of data provision

Figure 4f of Paper 1¹ is supposed to be a plot of the Glass Badge data for the period 2014 Q3 (from October to December). In Table 1,¹ “2014 3Q N = 21080” is written above the age-distribution histogram that corresponds to the period 2014 Q3. However, a public document of Date City³¹ states that the number of Glass Badges distributed to citizens of Date City for the period October 2014 to December 2014 (2014 Q3) was 16,037 and the percentage for these citizens who returned the Glass Badges was about 90%. The number of the participants should then be about 14,500. This inconsistency with the claimed N = 21080 suggests that the data used to plot Figure 4f were incorrect.

A closer look at Figures 4e and 4f suggests that the data for Figure 4f can be partly the same as that for Figure 4e, as pointed out in Letter 3⁸⁽⁽²⁾⁻⁽⁵⁾⁾. This is a serious issue, because these indicate that Figure 4f cannot have been created from the correct dataset. If the authors used the same dataset also for Paper 2, then Figure 5 therein which contains the period 2014 Q3 must be wrong as well.

The fact that there is no public record that the data for 2014 Q3 were provided to the authors corroborates this point. An email from a Date City clerk to Miyazaki on 3 August 2015 said that only the Glass Badge results until June 2014 had been included in the database and suggested that Date City provide the latest data (July 2014 to June 2015) in autumn.³² The latest data provided to the authors was dated 12 August.¹⁷ The authors thus should not have had the data for 2014 Q3. This is supported by another document,³³ most probably created by the authors and given to Date City, showing a histogram identical to that of 2014 Q3 of Table 1 in Paper 1 whose title reads “GB period 2013/10-12: The 9th airborne monitoring (2014/11/7)”. This document clearly states that the Glass Badge data in 2013 and the airborne monitoring data in 2014 are compared. This strongly suggests that M&H knew that the Glass Badge data were not for the period 2014 Q3, contradicting JRP’s claim that “the authors were not aware of this mistake in advance of publication of the article” in their retraction notice.³

3.3 The wrong estimate of lifetime doses

It has been pointed out³⁴ that the plots of the Glass Badge data in Figure 7 of Paper 2² were wrong and smaller by a factor of 0.46 compared with the actual value. This has been acknowledged in the investigations by the universities.^{25,35} JRP issued a statement on this issue by modifying the Retraction Notice⁴ without the record of revision histories, and without clarifying whether this affected the main results of Paper 2 or not (it does, as we will see immediately).

FMU claimed that this error did not affect the estimates of lifetime doses.²⁵ The error does indeed affect the estimate of lifetime doses, as pointed out by some of the Letter authors.³⁶ As the estimate of lifetime doses is given by integrating the theoretical function that predicts the reduction of the ambient dose rate, if the cumulative dose data were multiplied by $2.2 = 1/0.46$, then the theoretical function must be multiplied by 2.2 as well in order to fit the median of the cumulative doses. Consequently, the estimates of lifetime doses should also be multiplied by 2.2. It seemed that the members of the FMU investigation committee failed to understand the logic of estimating the lifetime doses. Their incorrect recognition that there were no mistakes in the lifetime dose estimates was one of the reasons why FMU judged that the error was not intentional. As it is evidently false, their judgement that there was no scientific misconduct loses its basis.

3.4 Unsupported conclusions on the effect of decontamination

In Paper 2, the authors assess the effect of decontamination in Zone A of Date City carried out in 2012 Q3, but their arguments ignore most of the data available. The authors conclude, by picking only two periods among 10 (before and after the decontamination) and assuming a single reduction function throughout the whole period, that “effects of decontamination on the reduction of individual doses were not evident”. This conclusion is unreasonable: the authors should have compared the dose rates before and after the decontamination and fitted each period by an *a priori* different function.

As a matter of fact, the effect of decontamination is visible if one compares the upper whiskers of 2012 Q2 and Q3 (17th and 20th months) in Figure 6 of Paper 2.² One of the authors (Ryugo Hayano) in fact reported in a symposium on September 13, 2015 that there were effects of decontamination in Zone A, by showing the same graph^{37(13:00~)}. Hayano also stated that the effect of the decontamination in Zone A was $\sim 60\%$ in their slides sent to the Chairperson of the Nuclear Regulation Authority^{24(p.14)}, before publication of Paper 2. This shows that M&H changed their conclusion by omitting the analysis that showed a reduction of 60%.

3.5 Other issues

The Letters pointed out a number of other issues in Papers 1 and 2.⁶⁻⁹ Some of the issues that substantially affect the conclusions and/or suggest further ethical issues are:

- Some of the participants in the study were evacuated, while their official residence remained in Date City. Therefore, their Glass Badge data cannot be compared with the ambient dose rates of their registered addresses.

- It was reported that a majority of the participants left the Glass Badge at home, hence the Glass Badge data did not reflect the actual radiation doses of the participants.
- The Ethics Statement of Paper 1¹ is wrong: the household addresses were not “pseudo-anonymized” as claimed.

3.6 The referee reports and the replies from the authors and JRP

As we have seen, both Papers^{1,2} contain numerous errors, inconsistencies, logical and design flaws, and ethical issues. The Letters pointing out these issues were submitted to JRP and they were either (provisionally) accepted without revision or received positive reviews and were then (provisionally) accepted. The reviewers recommended that the authors should clarify the issues pointed out by the Letters. Therefore, JRP was and is aware of all these problems, yet it failed to acknowledge most of the issues publicly. Instead, when Letter 5 (which points out the issues of the Retraction Notices and the Publisher’s Note) was submitted, JRP refused to consider it for publication, while admitting that at least one of the points in the Letter was correct.

4 Three investigations: FMU, UTokyo and Date City

A Date City resident submitted letters of allegations, requesting UTokyo (in December 2018) and FMU (in January 2019) to conduct formal investigations into research misconduct by the authors of the Papers. The allegation contained claims concerning violations of the ethical guidelines and some scientific anomalies in Figures 5A, 6, and 7 of Paper 2. These investigations concluded on 22 July 2019, without addressing fully the raised questions. Date City started its investigation on 4 February 2019 on the handling of personal information of residents, and concluded that the data provided to M&H contained the dose data of the residents who did not give consent to the study. This section summarizes these three investigations.

4.1 Investigation by FMU

The allegation by the Date City resident contains claims regarding both violations of the ethical guidelines and technical issues concerning Figures 5A, 6, and 7 in Paper 2. Specifically, it pointed out that Figure 7 and Figure 6 contradict each other, as do Figure 5A and Figure 6, and Figure 5A contain more outliers (defined to be above the 99-th percentile) than the 1% of the participants (see Section 3 and Table 1 for details).

The following is an extract from the FMU report concerning these Figures²⁵ (the translation is from article³⁸):

In comparing the claims of the allegor and the alleged, the following was determined.

- (1) Review of Paper 2 shows that the error pointed out by the allegor corresponds to Fig. 7.

- (2) When creating Fig. 7, the authors converted the individual dosimeter data from the 3-month cumulative dose to the dose rate per hour ($/3/24/30.5 * 1000 (= 0.455)$) just as they did in Fig. 6, even though the conversion was unnecessary for Fig. 7.
- (3) The value of the estimated lifetime doses shown in the conclusion of Paper 2 is reasonable, and there is no underestimation of individual radiation doses as claimed by the alleged.

This conclusion is problematic for several reasons. Firstly, the issue of outliers is ignored. Secondly, Figure 5 contains the same mistake of multiplying the 3-month cumulative dose by a factor of 0.455 (or about 0.5), but FMU does not admit this. Thirdly, the estimate of lifetime doses is wrong (see Section 3.3). Furthermore, FMU cites one of the articles written by two of the Letter authors³⁴ as a reference in which many other issues in both Papers were pointed out, but it did not discuss any of them. FMU then decided that the problem in Paper 2 was just a simple error rather than a fabrication. As for the ethical guidelines, FMU admitted in its report that the research protocol had not been followed closely²⁵⁽⁶⁽¹⁾⁾, but largely blamed Date City for the improper handling of the data. FMU concluded that the acts of M&H did not constitute research misconduct.

Altogether, the report by FMU failed to recognize the scientific issues, including conclusions not supported by the data. The reason why the researchers were judged not guilty, i.e. there is no underestimation of lifetime doses, is inconsistent with the graphs in Paper 2.

4.2 Investigation by UTokyo

The UTokyo Committee only published a very brief summary of its conclusions.³⁵ It did not investigate the ethical issues, with the excuse that they were not within the mandate of the investigation committee on scientific misconduct. Regarding Figure 6, they stated³⁵ (the translation is from an article by two of the Letter authors³⁸):

Concerning the discrepancy between the slides from the seminar (cited as ① in the Appendix) and the paper (cited as ③), because the vertical axis in the slides was intended to show the individual dose rate (Sv/h), the values obtained from the raw data (cumulative doses for 3 months in mSv) should have been multiplied by 0.455 ($/3(\text{months})/30.5(\text{days})/24(\text{hours}) * 1000$). But we confirmed that this was not done. We further confirmed that this conversion was done for the values of the vertical axis in Fig. 6 in the paper cited as ③ in the Appendix.

As for the discrepancies among data in the paper cited as ③ in the Appendix, the values of the vertical axis in Fig. 7 represent the Cumulative Dose [sic] (mSv) and they should have been multiplied by 2.2, which is the inverse of 0.455 mentioned above. We confirmed that the alleged researchers forgot this multiplication when conducting computations from Fig. 6.

The report by UTokyo, in the same way as the report by FMU, failed to recognize the error in Figure 5, and ignored the underestimation of the lifetime doses, which had been clearly alleged by the Date City resident (see the expository article³⁸ for details). Similarly

to the FMU report, the UTokyo report also trivialized the scientific problems in Paper 2 as a single, unintended mistake. They did not make sufficient effort in their investigation and therefore overlooked many issues that they should have identified. This should have been clear from the large number of serious issues pointed out in the Letters (which are partially covered in Section 3 in this paper). The UTokyo committee did not investigate ethical problems, without clarifying who was responsible for dealing with ethical issues.

4.3 Date City investigation

Date City set up an investigation committee on the handling of the personal data. The investigation started on 4 February 2019. The scope of the investigation was the examination of administrative procedures and handling of personal information by Date City. The committee's mandate did not include the examination of the contents of the papers. The investigation concluded on 17 March 2020. It did not determine which data had been provided to the authors and where the CD-Rs containing the personal data were now (this was followed up by an additional investigation by Date City council, although the latter did not find much more because most of the people questioned by the council did not answer its questions). In any case, it confirmed that the data provided to the authors contained that of individuals who did not give consent for the study, and that personal information was illegally provided to M&H.¹⁷

5 Retractions and consultation with COPE

5.1 JRP's handling of the Papers and Letters

As we saw in Section 4, the university investigations did not sufficiently examine either the problems in the allegation or the problems pointed out in the Letters and brought to their attention. In such a situation, it is the duty of JRP to verify the claims made in the Letters and to determine whether the original publications contain scientific problems, given that the Letters were all officially or provisionally accepted. This did not happen.

Overview of what took place in the handling of the Papers and Letters by JRP

The handling of the Papers and the Letters took a rather unusual course (see supplementary material for the timeline). As we already saw in Section 2.4, after the publication of Papers 1 and 2, Shin-ichi Kurokawa (SK) submitted a Letter to the Editor (Letter 1) about Paper 2 on 18 August 2018. This Letter was provisionally accepted, or became “ready to be accepted”, and the authors of the Papers (M&H) were invited to respond to the Letter on 16 November 2018. After some correspondence between JRP and SK, JRP promised to publish Letter 1 even if Paper 2 was retracted. The university investigations started on 18 December 2018 and 19 January 2019, and the Date City investigation started on 4 February 2019. Meanwhile, JRP issued an Expression of Concern about both Papers on 11 January 2019. The university investigations concluded on 19 July 2019. Letters 2, 3 and 4 were submitted between 30 January 2020 and 1 March; all of them were provisionally accepted by 7 April 2020, while Letter 1 was officially accepted on 24 March 2020. The authors of the Letters were notified

that the authors of the Papers had been invited to reply, with no reference to anything about the Letters being “on hold” (see Section 5.2) or to the Date City investigation. Meanwhile, the Date City investigation concluded on 17 March 2020. JRP retracted Papers 1 and 2 on 28 July 2020 on the basis that they used unconsented data, and decided to withdraw the four Letters as well.

As we mentioned in Section 2.4, it was already unusual that the authors of the Papers proposed writing a corrigendum, instead of submitting a point-by-point reply to Letter 1, and that JRP accepted it. If that had happened, the content of Letter 1 would have been published with M&H as the authors, even though it was SK who pointed the content out in a provisionally accepted Letter to the Editor. This was only reversed after SK wrote to JRP several times.

JRP’s handling of the Letters

JRP’s handling of the Letters after the Papers were retracted was even more inappropriate. JRP resorted to various inconsistent reasonings not to publish the Letters. We identify several serious problems in JRP’s explanations for its decision:

- JRP’s justifications for withdrawing the Letters changed over time and were inconsistent. On 8 July 2020, JRP wrote to the Letter authors that they would withdraw the Letters “on the same basis, i.e. that they are drawing scientific conclusions based on a dataset that was given without participant consent”. This was simply false in two ways: First, the Letter authors did not have the original dataset nor refer to it. Second, the Letters pointed out problems in the Papers but did not draw scientific conclusions on the radiation issues. Upon inquiry by the Letter authors, JRP changed its explanation and said, on 14 July 2020, that “there is a serious problem in that they comment upon, and draw conclusions about, papers that have been retracted due to the use of unconsented data”. This reasoning is hard to understand, to say the least, because accepting this reasoning would make it possible to hide scientific flaws by resorting to ethical issues in data.
- The Letter authors then appealed to IOP Publishing (IOPP, the publisher of JRP), but it withdrew the Letters. JRP stated in its Publisher’s Note¹⁰ that “it was not felt possible to independently verify with certainty whether or not the four Letters were free of the use of the ethically inappropriate data”. The fact is that JRP made no effort to “verify with certainty” whether the Letters used the unconsented data or not. They did not ask the authors of the Letters any questions regarding how the Letters were written. There was no confirmation that JRP consulted the reviewers of the Letters, either.
- The Letters did not use the original unconsented data, but only the figures, tables and the text of the Papers and public documents obtained through Freedom of Information requests. This can be confirmed from the content of the Letters themselves.

As of April 2022, JRP has acknowledged only three of the scientific issues pointed out in the Letters:^{3,4} the one regarding the data of 2014 Q3 (pointed out in Letter 3, see Section 3.2), errors in the plot of Figures 6 and 7 of Paper 2 (pointed out in an article in Japanese³⁴

and in Letter 4, see Section 3.3), and a missing normalization factor (pointed out in Letter 1). The explanation about the missing factor is wrong; only a normalization factor without replacing t by $t - 0.65$ is needed). These confirmations were added without the permission of the Letter authors, but also are inconsistent with JRP’s claimed policy that the unconsented data cannot be referred to in any situation. Furthermore, it is unclear when these issues were added to the retraction notices (JRP modified them without a clear record, and the initial version of the retraction notice of Paper 2 did not contain the issues of the normalization factor and the plot). All the other issues pointed out in the Letters remain unaddressed.

JRP’s Retractions and Publisher’s Note

The Retraction Notices^{3,4} and Publisher’s Note¹⁰ contain a number of incorrect statements about the Letters, the investigations, the ethical policy of FMU, and other issues.¹¹ The most important ones are as follows:

- The summary of the report by the Date City Citizen’s Exposure Data Provision Investigation Committee is incorrect and the links in the Retraction Notices^{3,4} to the reports are wrong. This clearly shows that JRP did not verify the report, but trusted what the authors of the Papers told it without necessary – or any – verification.
- The retraction notice³ claims that a number in a figure in Paper 1 was wrong. This was one of the issues pointed out in Letter 3. The Letter authors told a journalist about this, who subsequently made an inquiry to Miyazaki (FMU admitted that Miyazaki came to know about this through the journalist³⁹). Here, JRP included a finding in the Letters in its Retraction Notice without the permission either of the Letter authors or of the journalist. Worse still, this issue with the number means that a part of the dataset used for both Papers 1 and 2 was wrong, which affects almost all findings in the Papers. The Letter authors informed JRP of this,¹¹ but JRP refused to acknowledge it.
- As we summarized in Section 2.3, FMU updated the rules for its Ethical Committee and for research misconduct in May 2015. M&H were thus required to conserve the data for at least 10 years. The claim that “[the authors] said that this was required by the ethical policies of Fukushima Medical University” only shows that JRP trusted them without minimal verification, again.
- JRP claimed that it had put the Letters “on hold” while the Date City investigation was ongoing. This cannot be true, at least for Letter 1, because it had been provisionally accepted before any of the three investigations started. Furthermore, Letter 1 was formally accepted on 23 March 2020 (this would be reversed later, when JRP learned of the existence of the Date City investigation).

As the Letters were provisionally accepted, JRP should have known that the Papers contained a number of serious scientific problems that critically affected the Papers’ conclusions, many of which were not identified in the university investigations. Nevertheless, it did not scrutinize most of them, but rather published what the authors told JRP as is. Such a handling of

issues is inappropriate, as we have shown, because the statements of the authors were at least partially untrue.

Given this situation, the Letter authors submitted Letter 5, which pointed out these problems in the retraction notices and the Publisher’s Note. JRP rejected it without peer review, claiming that “the matter is now closed”. The course of events outlined above, however, shows that JRP understands neither the content of the Letters nor the nature of the three investigations. It is entirely illegitimate to call a case closed when the editors have no grasp of it.

5.2 IOPP’s consultation with COPE

After some correspondence with the Letter authors concerning the withdrawal of the Letters, IOPP consulted the Committee on Publication Ethics (COPE) for advice on 4 September 2020. COPE is an organisation “committed to educating and supporting editors, publishers and those involved in publication ethics with the aim of moving the culture of publishing towards one where ethical practices become a normal part of the publishing culture”. COPE’s members consist of scientific journals and companies. JRP is a member of COPE, and IOPP states in its “[E]thical policy for journals” that IOPP applies “the principles of publication ethics outlined in the COPE Core Practices”.⁴⁰ On 26 October 2020, IOPP informed the Letter authors of COPE’s advice following IOPP’s consultation with COPE.

IOPP’s request to COPE for advice, the document of which the Letter authors received from IOPP, was vague and contained misleading descriptions. It claimed that the Letters “were placed on hold while the investigation was being completed”, which was not the case, as we saw in Section 5.1. Most surprisingly, IOPP did not tell COPE that the Letters pointed out errors in the Papers, but instead said that the Letters “were heavily based on the papers and cite data, figures, and equations”.

Based on these incorrect and misleading explanations of the status and content of the Letters, IOPP asked COPE for its advice on two points:

1. “Was the journal right to withdraw the accept offers for the four letters?”
2. “Is there any specific guidance that covers articles that comment on retracted papers and what is permissible?”

The Letter authors received the statement of advice made by COPE from IOPP on 26 October 2020 (the original statement was not dated). It said “[i]f the letters are directly and solely based on the results of the affected papers, rejection should be straightforward,” while “[i]f the letters cite the papers in the context of journalology, or criticize the same issues that underlie later retraction, it could be argued the letters could stay, with an explanatory editorial note.” IOPP, first without disclosing the content of its consultation with COPE to the Letter authors (such disclosure was eventually made on 9 November 2020), claimed:

In summary, we take COPE’s response to suggest two options:

1. The withdrawal of the Letters by IOP Publishing stands
2. The authors revise the Letters removing the affected material and references

It is difficult to interpret COPE’s reply in this way. It clearly allows the Letters to be published in some cases, either “in the context of journalology, or [if the Letters] criticize the same issues that underlie later retraction”, while it recommends rejection when letters are “directly and solely based on the results of the affected papers”. The Letters are not “*based on the affected papers*” but scientifically *invalidate* the Papers, at the same time implicitly raising questions about the editorial decision to publish the Papers, which are full of errors, in the first place. Among these two categories, therefore, the Letters belong to the first category (journalology) and hence should be publishedⁱ.

5.3 The Letter authors’ consultation with COPE

Interactions among COPE, IOPP and the Letter authors

As the description given to COPE by IOPP misrepresented the situation and IOPP’s decision seemed an arbitrary interpretation of COPE’s opinion, the Letter authors consulted COPE about JRP’s decision not to publish the four accepted and provisionally accepted Letters. Their claim clarified the fact that the JRP/IOPP explanations not to publish the Letters had changed twice (see Section 5.1).

In relation to this consultation, COPE made two inquiries to IOPP, first on 23 November 2020 and then on 1 January 2021. Yet, in this inquiry, COPE ignored all the inconsistencies in IOPP’s explanations included in the Letter authors’ consultation document. In IOPP’s reply to COPE, JRP wrongly claimed again that the Letters had been “placed on hold pending the outcome of the investigation”.

The second inquiry from COPE to IOPP concerned “the circumstances and process” and “the error in Table 1.” On 12 January 2021, IOPP made a response, which again contained multiple anomalies, including the following:

- IOPP stated that the investigation confirmed that some of the data used in the articles was gathered without participant consent, but the actual ethical issue was the use of the data not consented for research.
- IOPP claimed that the allegations made by the Letter authors were “unproven”, while in reality the Letters were accepted or provisionally accepted and the reviewer(s) recommended that the Paper authors should explain the issues, which the Paper authors have never done.

In addition, IOPP stated:

We are in the process of updating the retraction notice for the second article to acknowledge and correct two errors that were identified in the first Letter for which the authors have now provided some corrections.

As we saw above, this had been done without the permission of the Letter authors. IOPP admitted that the contents of the Letters needed to be recorded, and published them as “corrections”. It is hard to see a sensible reason why it was possible to publish the corrections

ⁱThe present paper is also in the first category, because it is a critical review of the handling of issues by the journal.

but not the Letters. At some point in 2021, JRP modified the Retraction Notice⁴ of Paper 2 without a clear record and stated that the cumulative doses in Figure 7 should have been multiplied by 0.455. This was one of the findings of the Letter authors, first identified by SK in Letter 1, published with more details in an article in Japanese,³⁴ cited by FMU, and included also in Letter 4. The Retraction Notice mentions none of these but only thanks “the readers that brought these issues to their attention”.

COPE’s final report

From COPE’s inquiries to IOPP, it had already become clear that COPE had no intention of examining anomalies involved in the handling of the Papers and the Letters or the content of the Letters. The final report made by COPE stated that

the journal followed an adequate process to handle the concerns raised about the reversal of the acceptance decision for the letters to the Editor.

The journal took the decision to reverse the acceptance following an institutional investigation which led to the retraction of the publications that the letters were related to, and in consideration of the journal’s documented processes which note that acceptance decisions can be reversed in certain circumstances. The publisher apologized to the authors of the letters and offered them the possibility of submitting a new letter to the Editor that did not rely on data reported in the retracted articles. The publisher has taken steps to update the retraction notice where this was established to be necessary to provide accurate information to readers. The publisher also sought advice from COPE in relation to the decision not to publish the letters.

The Facilitation & Integrity subcommittee agrees with the publisher that the processing of the letters should have been placed on hold when the journal was informed about an institutional investigation about the published studies, and welcomes the steps taken by the publisher to update their processes so that in future, if an investigation is ongoing, the processing of related submissions is paused.

Several extraordinary points can be observed in this judgment. First, COPE claimed that the journal “followed an adequate process to handle the concerns”, but this claim breached COPE’s own guidelines. According to “What to do if you suspect fabricated data (b) Suspected fabricated data in a published manuscript”, the editors must “Contact author’s institution requesting an investigation”, and if they obtain “no or unsatisfactory response”, they must “Contact regulatory body”.⁴¹ However, neither JRP nor IOPP followed this process. COPE nevertheless claimed that they followed “an adequate process”.

Also, COPE avoided the issue of the arbitrariness of the decision made by IOPP/JRP, by using the vague expression “the retraction of the publications that the letters were *related to*,” without clarifying the nature of how the Letters were “related to” the retracted papers. The statement “acceptance decisions can be reversed in certain circumstances” is also very vague. In sum, COPE decided not to check the arbitrariness and anomalies involved in the decision by JRP not to publish the Letters, ignoring all the evidences provided by the Letter authors.

COPE, in stating its final reply to the Letter authors that “[i]t is beyond the scope of this process to evaluate the scientific content of publications, or the content of notifications posted on an article that pertain to the content”, effectively admitted that it gave up on fulfilling its stated mission and responsibility; the validity of the formal process cannot be evaluated without minimally understanding the content of publications and of notifications. Without checking the validity of the dates given in the notification or the links, which COPE did not refer to in its conclusions, what one claims happened and what happened in reality cannot be distinguished. Even if COPE has no competence in evaluating the scientific issues, it is still puzzling that it avoided reference to the problematic aspects of IOPP/JRP’s handling of the case, including the fact that IOPP/JRP’s explanations of its decision not to publish the Letters changed, the date and link information given in the Retraction Notices were in part wrong, and some of the explanations in the Publisher’s Note and Retraction Notices were originally given in the Letters. It must have been clear, even with a superficial consideration, that IOPP/JRP did not “follow an adequate process”.

In addition, when the Letter authors asked COPE to specify its criteria for the use of “unconsented data”, COPE answered that “some of the data were unconsented such that none of the data should be used in any future analysis”. This again obstructs debate on scientific issues in papers retracted on ethical grounds.

5.4 Current status of the Papers

Following this chain of events, the Publisher’s Note remains in place with a number of errors, and with no reference to any of the scientific issues in Papers 1 and 2 except three that were added without any credit to or permission by the Letter authors (see Section 5.1). The only official reason for the retractions remains the ethical issue, i.e. the Papers used unconsented data, and JRP has admitted none of the technical issues except the above three.

Although it had called the matter “closed”, following the provision of information from Date City Council, JRP made corrections to the Retraction Notices and Publisher’s Note^{3, 4, 10} in January 2022. No detail was given about what had been corrected.

As the last example of arbitrariness in JRP’s editorial decision making, we point out that another paper was published by the same authors of the Papers,⁴² in which the results of Paper 1 and UNSCEAR data were compared. Although this paper depends entirely on the results of Paper 1 (because their main point was *comparison*), JRP has not retracted it, but instead agreed to keep it by removing references to Paper 1 and citing other papers with similar results, hence by changing the *subject* of the paper.

6 Conclusions and recommendations

Let us summarize the problems with the handling of the Letters by JRP:

- The original Papers contain a large number of errors that are easy to spot. This suggests that the peer-review process did not work properly.
- When JRP received Letter 1, it allowed the authors to publish a corrigendum, instead of requiring them to reply to the Letter point-by-point. This enabled the authors to

ignore the issues pointed out in Letter 1 arbitrarily.

- Although the referee reports of Letters 2 and 4 recommended clarifying some of the issues, JRP has never done so.
- The excuse for not publishing the Letters, i.e. that any finding based on unethically obtained data cannot be published, is unreasonable. Indeed, JRP itself mentioned some of the issues pointed out in the Letters in the Retraction Notices. What is worse is that JRP did so without mentioning the Letters, as if it had identified the issues by itself.

All these (in)actions obstructed sound scientific debate, and the journal has failed to record the scientific problems of the retracted Papers, including possible misconduct.

Scholarly journals play an important role in the sound development of science. The established procedure of peer review, though not without problems, is essential in maintaining the quality of published papers.⁴³ As peer review gives certain authority to papers published in scholarly journals, peer-reviewed papers can influence policy decisions and public opinions as “scientific findings”. In this regard, it is very important that peer reviews are carried out in a reasonably rigorous manner. Perhaps even more importantly, when problems surface after the publication of papers, the journal that published the papers should provide an adequate space for scholarly debate, or allow public peer review. Depending on the outcome of this process, the paper should be corrected if the main body of the original paper is still valid after corrections, or retracted if its problems are serious. Scientific misconduct that goes beyond errors is sometimes revealed in this process. Most journals have a section designated for criticisms on papers they publish, typically “Comments” or “Letters to the Editor”. The authors of the criticized papers are generally expected to provide point-to-point responses to each of the specific items in the criticism. These procedures are essential for maintaining the scholarly standard of the journal and of the research.

In order to maintain the integrity of scholarly publishing, we believe that the following acts are necessary:

- In some journals, authors are allowed to list preferred and non-preferred referees during submission. Authors could utilize this system strategically to list referees who would provide favorable review for the manuscript. To prevent such abuse of a referee-nomination system, if a referee was selected from the list, this fact and the reviewer’s name should be disclosed. Moreover, in recent years, some journals, including Nature, have published review reports and rebuttals from authors to advance scholarly discussion.⁴⁴ Industry journals may be perceived as publishing only papers that are advantageous to the industry. To avoid such evaluations and to contribute to scientific progress, it is necessary to improve the review system and make it more transparent.
- Letters that point out methodological and analytic problems in retracted papers should be published, in order to prevent cases where the journal is not willing to disclose such problems.
- Accepted letters should be published even if the authors do not reply. There should be a clear deadline for the authors to reply, in order to prevent cases where the authors deliberately block the publication of the letters.

- Journals should not be allowed to publish the content of letters without publishing the actual lettersⁱⁱ. Such publication should be clearly identified as plagiarism by the journal.
- Journals should declare when authors have failed to disclose conflicts of interest.

When a journal does not take proper action, there should be an independent organization that investigates the case. In the present case, COPE should have played that role. As we have seen, however, it failed to do so. While it is understandable that COPE was not able to examine the technical issues of the paper, it was not difficult to confirm that JRP did not even minimally check the claims made by the authors of the Papers.

To prevent such a superficial procedure, we recommend the following:

- The independent organization should make sure that the journal followed a due process.
- The independent organization should accept appeal, where the alleged can point out that the inspection of the case was not satisfactory.

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- ³⁸ Kurokawa Shin-ichi, Tanimoto Yoh. *KAGAKU*. 2019;89:589–596. https://www.iwanami.co.jp/kagaku/Kagaku_201907_Kurokawa&Tanimoto.pdf [in Japanese].
- ³⁹ OurPlanet-TV . A news article on 11 October 2020 <http://www.ourplanet-tv.org/?q=node/2524> [in Japanese].
- ⁴⁰ IOP Publishing . Ethical Policy for Journals <https://publishingsupport.iopscience.iop.org/ethical-policy-journals/>.
- ⁴¹ COPE . What to do if you suspect fabricated data (b) Suspected fabricated data in a published manuscript <https://publicationethics.org/files/Fabricated%20data%20B.pdf>.
- ⁴² Hayano Ryugo, Miyazaki Makoto. Comparison of the UNSCEAR isodose maps for annual external exposure in Fukushima with those obtained based on airborne monitoring surveys *Journal of Radiological Protection*. 2018;38:310–317. <https://doi.org/10.1088/1361-6498/aaa57e>.
- ⁴³ Dancik Bruce P.. Importance of Peer Review *The Serials Librarian*. 1990;19:91-94. https://doi.org/10.1300/J123v19n03_11.
- ⁴⁴ Nature . Editorial: Nature will publish peer review reports as a trial *Nature*. 2020;578:8. <https://doi.org/10.1038/d41586-020-00309-9>.

⁴⁵ Kopstein Melvyn J.. Behind the Scenes at JOEH: Questionable Actions Lead to the Publication of an Industry-funded Benzene Exposure Article and Refusal to Publish Letter to the Editor *The Journal of Scientific Practice and Integrity*. 2019;1.

Timeline of events related with Papers 1 and 2

Here we summarize relevant events concerning the Papers, Letters and the retractions. Some of them are recorded in Editorial,¹ but there are important omissions and incorrect statements.

The events recorded in Editorial¹ are reproduced here between [] (while removing unnecessary details concerning the review processes and the author affiliations), some with our comments. The events omitted in Editorial¹ are marked with ●, while those happened after its publication are marked with ○.

Date	Event (and our comments)	Not mentioned in Editorial ¹
20.02.2015	The Glass Badge data are provided to Miyazaki and Hayano by Chiyoda Technol Co. (Reported in a news article by Our-planet TV on 8 February 2020. link)	●
12.08.2015	The Grass Badge data from July 2012 to June 2014 and information with respect to decontamination are provided to Miyazaki and Hayano by Date City. (Confirmed by Date City Citizen's Exposure Data Provision Investigation Committee report 2020. link)	●
13.09.2015	"Measure and Communicate - 4.5 years, and beyond" is presented by Hayano at 12th ICRP Dialogue in Date-city. The presentation includes results of analysis of Glass Badge data: substantial reduction due to decontamination in area A: the most contaminated region and forecast of lifetime exposure. (link)	●
21.10.2015	Preliminary figures is sent to the then chairman of the Nuclear Regulation Authority (NRA) of Japan by Hayano, saying that they were working to write papers on the data of Date City, and he would give it to the chairman of NRA because the results could be useful for regulation purpose. (Reported in a news article by Our-planet TV on 3 February 2020. link)	●
23.10.2015	The letter of request dated 1 August, 2015 (before the data transfer mentioned above) is submitted to Miyazaki by the then mayor of Date City asking analysis of data and writing the papers. (Confirmed by Date City Citizen's Exposure Data Provision Investigation Committee report 2020. link)	●
02.11.2015	The Research Protocol of "Analysis of Individual Dose Measurement in Date City after Fukushima Daiich Nuclear Accident" is submitted by Professor Ohtsuru of Department of Radiation Health Management in the Fukushima Medical University(FMU) to the Research Ethics Committee of FMU. Miyazaki and Hayano are listed as the principal investigator and a co-investigator, respectively.	●

17.12.2015	(link) The Research Protocol is approved by the Research Ethics Committee of FMU.	•
18.08.2016	(link) [Paper 1 ² is submitted to Journal of Radiation Protection (JRP).]	
06.12.2016	[Following a single-blind review process, Paper 1 is published.]	
08.01.2017	[Paper 2 ³ is submitted.]	
06.07.2017	[Following a single-blind review process, Paper 2 is published.]	
18.08.2018	[Letter 1 by SK is submitted.]	
16.11.2018	[Following a single-blind review process, Letter 1 is “ready to be accepted” for publication, and the authors of the two Papers (Makoto Miyazaki and Ryugo Hayano) are invited to submit a responding Letter.] IOP says it was “ <u>provisionally accepted</u> ”, but what SK was told was that it was ready to be accepted.	
27.11.2018	[Makoto Miyazaki and Ryugo Hayano respond and ask to submit a Corrigendum to correct Paper 2, rather than submit a Letter in response. Within this correspondence Makoto Miyazaki and Ryugo Hayano note that the dataset had at that stage been discarded.] <u>The claim by Miyazaki and Hayano is wrong.</u> They said that this was required by the ethical policies of Fukushima Medical University, however, the Japanese national policy regarding the medical research ethics, whose article on research data has been effective since 1 October 2015 (hence before the ethical approval of the original studies), ⁴ requires that the dataset be <u>preserved</u> as long as possible, instead of being discarded, and Rules of FMU stated that data should be kept at least for 10 years.	
12.12.2018	[Makoto Miyazaki and Ryugo Hayano are invited to submit a Corrigendum for Paper 2.]	
12.12.2018	JRP decided not to publish Letter 1, as the authors would write a corrigendum. This decision would be reconsidered on 29 January 2019 and JRP promised that it would publish Letter 1 even if the original papers would be retracted.	•
07.01.2019	[A Date City resident informs IOP Publishing of an investigation by the University of Tokyo (the institution affiliated with Ryugo Hayano) regarding potential ethical misconduct in scientific research. IOP Publishing asks Makoto Miyazaki and Ryugo Hayano to confirm their awareness of this and to elaborate on any details they might have.] <u>The Date City resident mentioned here has informed the IOP publishing regarding not only potentially ethical misconduct but also scientific misconduct.</u>	
08.01.2019	Hayano posts a note on twitter ⁵ admitting the miscalculation in Paper 2. ³ However, later he withdraws this explanation. ⁶	•

10.01.2019	[IOP Publishing contacts the University of Tokyo Research Ethics Promotion Group to seek confirmation and further details about any investigation.]	
11.01.2019	<p>[IOP Publishing is first made aware by Makoto Miyazaki and Ryugo Hayano of an official investigation on behalf of the Date City authorities into the matter. Makoto Miyazaki and Ryugo Hayano also confirm their awareness of an allegation from a Date City resident concerning research misconduct against the University of Tokyo, although Makoto Miyazaki and Ryugo Hayano explained they had not received correspondence from the University in relation to the matter.]</p> <p>Contrary to what the authors told to IOP Publishing¹ “In the same message the authors notified IOP Publishing (for the first time) that an official investigation by a committee acting on behalf of the Date City authorities (the local government who supplied the authors of the Papers with data that underpinned the research), was underway”, the investigation by Date City had started on 4 February,⁷ therefore, it was not “underway” on 11 January.</p>	
11.01.2019	[IOP Publishing receives notification from the University of Tokyo Research Ethics Promotion Group that they will not enter into any correspondence with IOP Publishing on the matter or respond to any questions asked.]	
11.01.2019	<p>[Expressions of Concern notices (2019 J. Radiol. Prot. 39 176 and 2019 J. Radiol. Prot. 39 177) are published on the Papers, alerting readers to the ongoing investigation. IOP Publishing and the journal’s Editorial Board agree to place the Corrigendum and Letter 1 on hold until the official Date City committee investigation is complete.]</p> <p>It was impossible for JRP to make Letter 1 on hold on 11 January 2019, because JRP had decided not to publish Letter 1 on 12 December 2018, and the decision was reversed only on 29 January 2019. Furthermore, the Date City committee investigation started on 4 February 2019, later than this date 11 January.</p>	
15.04.2019	[Makoto Miyazaki and Ryugo Hayano inform IOP Publishing that a ‘fullscale investigation’ on behalf of Fukushima Medical University (the institution affiliated with Makoto Miyazaki) was underway.]	
19.07.2019	The investigations of the University of Tokyo (UT) and Fukushima Medical University (FMU) concluded. ^{8,9} Hayano changed the account for the mistakes in Paper 2 ³ on twitter. ⁶	•

15.08.2019	<p>[Makoto Miyazaki informs IOP Publishing that the investigations on behalf of Fukushima Medical University and the University of Tokyo did not confirm whether or not unconsented data were reported in the Papers, and that the matter remained subject to an investigation by a committee acting on behalf of Date City authorities. IOP Publishing was further informed that the investigations by the two universities did not identify staff misconduct in relation to the research reported in the Papers.]</p> <p><u>Miyazaki's claim misrepresents the investigation reports.</u></p> <ul style="list-style-type: none"> • FMU admitted that unconsented data were used. It only stated that the authors could not be held responsible for it. UT did not investigate the ethical aspects. • FMU report is wrong about the lifetime doses. It is clear that the lifetime doses were underestimated.¹⁰ 	
30.01.2020	[A second Letter ('Letter 2'), raising various technical issues within Paper 1 is submitted.]	
04.03.2020	<p>[A third Letter ('Letter 3'), raising various technical issues within Paper 1 is submitted.]</p> <p><u>Letter 3 is by all of us, not only by SK as in Editorial.¹</u></p>	
10.03.2020	[A fourth Letter (Letter 4), raising various technical issues within Paper 2 is submitted.]	
16.03.2020	[Letter 2 received a decision of 'Provisional Acceptance' but is placed on hold until the official Date City committee investigation is concluded. Letter 3 receives a decision of 'Provisional Acceptance' but is placed on hold until the official Date City committee is concluded.]	
17.03.2020	<p>The investigation of Date City concluded.⁷</p> <p>This was communicated to JRP by Miyazaki only in June (see 04.06.2020), even though "IOP Publishing had routinely requested updates on the progress of the investigations" and the authors "were responsive and helpful".¹</p>	•
18.03.2020	Letter 1 was provisionally accepted.	•
23.03.2020	Letter 1 was formally accepted and JRP sent a message to Kurokawa saying "We will contact you again soon when proofs of your article are ready for final approval." This clearly shows that Letter 1 was not <i>on hold</i> .	•
07.04.2020	[Letter 4 receives decision of 'Provisional Acceptance' but is placed on hold until the official Date City committee investigation is concluded.]	

	<u>The Letter authors had been told</u> that JRP was waiting for the replies of the original authors and were never informed by JRP that the Letters were on hold because of the Investigation of the Date City committee was underway.	
04.06.2020	[IOP Publishing receives notification from Makoto Miyazaki that the official Date City committee investigation has concluded, and that it had found that some subjects within the study did not consent to their data being used for research.]	
04.06.2020	[IOP Publishing begins the process to retract the Papers on the basis of the outcome of the official Date City investigation (use of some unconsented data). A final internal meeting was held to reconsider any potential ethical concerns associated with publishing the four Letters which comment on the Papers. Since IOP Publishing was not provided specific details of the ethically inappropriate data, it was not felt possible to independently verify with certainty whether or not the four Letters were free of the use of the ethically inappropriate data. Given that the four Letters are heavily based on the Papers and cite data, figures, and equations, the decision to not publish the Letters was made.]	
08.07.2020	The JRP editor address to the author of Letter 1, notifies of their decision not to publish the Letters, and told him that JRP “should not proceed with the publication of any of the four Letters, on the same basis”.	•
11.07.2020	A Objection to the decision not to publish is sent to Editor In Chief of JRP by the Letter authors, where it is argued that the Letters did not use the unconsented data.	•
14.07.2020	JRP refuses the request saying “there is a serious problem in that they comment upon, and draw conclusions about, papers that have been retracted due to the use of unconsented data”.	•
27.07.2020	JRP and SK exchange further emails.	•
28.07.2020	[Retraction notices are published in the journal.] <u>The retraction notices contained various errors</u> , including the link to the report of Date City. ¹¹	
26.08.2020	The Letter authors write to IOP council members and IOP’s Policy Center to raise the question.	○
09.09.2020	IOP Publishing informs the Letter authors that they seek advise for COPE on handling of the papers and letters (submitted on 04.09.2020). Thereafter, there are several correspondences between IOP Publishing and the Letter authors, but IOP Publishing tells them to wait until COPE’s ruling.	○
12.10.2020	Concerns are raised to COPE by the Letter authors, but kept on hold as IOP Publishing had consulted COPE (see IOPP response to COPE.pdf in the supplementary material for the inquiry).	○

26.10.2020	IOP inform the result of the advise by COPE (see COPE_ruling.pdf in the supplementary material). In the further correspondences, the Letter authors argue that the Letter can be published, but IOP Publishing refuses it.	○
09.11.2020	IOP send the Letter authors the content of the inquiry submitted to COPE by IOP (see Withdrawal.pdf in the supplementary material).	○
17.11.2020	The Letter authors reopen their inquiry to COPE (see the entry on 12.10.2020).	○
23.11.2020	Inquiry on the matter is sent to JRP/IOP by COPE.	○
09.12.2020	IOP responds to the inquiry.	○
16.12.2020	Objection to IOP's response is sent to COPE by the Letter authors. Objections describes purposes of the claim and the the errors in the retraction notice of Paper 1 ¹² and COPE's unrespected guideline (see COPE_Comment20201215.pdf in the supplementary material).	○
04.01.2021	Inquiry to IOP is sent by COPE that focuses on "the circumstances and process" and "the error in Table 1" (see 20210104COPEtoIOP.pdf in the supplementary material).	○
12.01.2021	IOP's Response is sent to COPE.	○
18.01.2021	The Results of COPE Review (see Kageura summary report.pdf in the supplementary material) is sent to us. It concludes "The journal's decision to withdraw the acceptance of these letters is reasonable as the authors did not provide evidence that the data used in the letters were not based on the unconsented data." and "the journal followed an adequate process to handle the concerns raised about the reversal of the acceptance decision for the letters to the Editor."	○
18.01.2021	JRP informs SK that they are in the process of updating the retraction notice of Paper 2 and asks to consent to be acknowledged. In the further correpondences, a discussion follows why such correction is possible without publishing Letter 1.	○
27.01.2021	Objection/inquiry to the conclusion of COPE is sent to COPE by the Letter authors with attachment that corrected Publisher's notice and inquiry on COPE's criteria for the use of "unconsented data".	○
08.02.2021	COPE's response to the inquiry is emailed to us that states "It is beyond the scope of this process to evaluate the scientific content of publications, or the content of notifications posted on an article that pertain to the content" and "some of the data were unconsented such that none of the data should be used in any future analysis". (see 20210208COPEtoKage.pdf in the supplementary material).	○
14.02.2021	A fifth Letter ('Letter 5'), raising various technical issues within the retraction notices and the editorial is submitted.	○

16.02.2021	JRP rejects Letter 5, saying that “the matter is now closed”.	○
06.01.2022	JRP made corrections to Retraction Notices and Publisher’s Note, following the provision of further information from Date City Council.	

References

- ¹ Publisher’s Note on: ‘Individual external dose monitoring of all citizens of Date City by passive dosimeter 5 to 51 months after the Fukushima NPP accident (series): I. Comparison of individual dose with ambient dose rate monitored by aircraft surveys’ (2017 J. Radiol. Prot. 37 1) and ‘Individual external dose monitoring of all citizens of Date City by passive dosimeter 5 to 51 months after the Fukushima NPP accident (series): II. Prediction of lifetime additional effective dose and evaluating the effect of decontamination on individual dose’ (2017 J. Radiol. Prot. 37 623) *Journal of Radiological Protection*. 2020;40:E19–E23. <https://doi.org/10.1088/1361-6498/aba42a>.
- ² Miyazaki Makoto, Hayano Ryugo. Individual external dose monitoring of all citizens of Date City by passive dosimeter 5 to 51 months after the Fukushima NPP accident (series): 1. Comparison of individual dose with ambient dose rate monitored by aircraft surveys *Journal of Radiological Protection*. 2016;37:1–12. <https://doi.org/10.1088/1361-6498/37/1/1>.
- ³ Miyazaki Makoto, Hayano Ryugo. Individual external dose monitoring of all citizens of Date City by passive dosimeter 5 to 51 months after the Fukushima NPP accident (series): II. Prediction of lifetime additional effective dose and evaluating the effect of decontamination on individual dose *Journal of Radiological Protection*. 2017;37:623–634. <https://doi.org/10.1088/1361-6498/aa6094>.
- ⁴ The Ministry of Education, Culture, Sports, Science and Technology . Ethical Guidelines for Medical and Health Research Involving Human Subjects https://www.lifescience.mext.go.jp/files/pdf/n2181_01.pdf.
- ⁵ Hayano Ryugo. <https://twitter.com/hayano/status/1082488374043103232>.
- ⁶ Hayano Ryugo. <https://twitter.com/hayano/status/1152129151786049542>.
- ⁷ Date City Citizen’s Exposure Data Provision Investigation Committee report 2020. <https://www.city.fukushima-date.lg.jp/uploaded/attachment/43948.pdf> [in Japanese].
- ⁸ The University of Tokyo . On the allegation about papers by a former professor at school of science 19 July 2019, <https://www.iwanami.co.jp/kagaku/400120284.pdf> [in Japanese].
- ⁹ Fukushima Medical University . On the investigation results concerning misconducts related with research activities 19 July 2019, https://www.fmu.ac.jp/univ/daigaku/topics/data/20190719_press.pdf [in Japanese].
- ¹⁰ Kurokawa Shin-ichi, Tanimoto Yoh. Comments on the investigation reports by Fukushima Medical University and the University of Tokyo on allegations regarding papers on radiation dose estimates in Date City *KAGAKU*. 2019;89:e0001–596. https://www.iwanami.co.jp/kagaku/eKagaku_201908_Kurokawa&Tanimoto.pdf.
- ¹¹ Tanimoto Yoh, Hamaoka Yutaka, Kurokawa Shin-ichi, Kageura Kyo, Makino Jun, Oshikawa Masaki. Comments on ”Publisher’s Note” on papers on individual external dose monitoring of all citizens of Date City <https://osf.io/preprints/metaarxiv/n6fyh/>.

- ¹² Retraction: Individual external dose monitoring of all citizens of Date City by passive dosimeter 5 to 51 months after the Fukushima NPP accident (series): 1. Comparison of individual dose with ambient dose rate monitored by aircraft surveys (2017 J. Radiol. Prot. 37 1) *Journal of Radiological Protection*. 2020;40:908–909. <https://doi.org/10.1088/1361-6498/ab9ff0>.

Date: Mon, 4 Jan 2021 17:31:29 +0000
From: Iratxe Puebla <cope_assistant@publicationethics.org>
To: Kim Eggleton <kim.eggletton@ioppublishing.org>
Cc: Kageura Kyo <kyo@p.u-tokyo.ac.jp>, Antonia Seymour <antonia.seymour@ioppublishing.or...>
Subject: Re: Concerns raised to the attention of COPE

Dear Ms Eggleton,

Thank you for your response to our request for comments on the concerns that Kyo Kageura has raised regarding the publications in Journal of Radiological Protection by Miyazaki and Hayano, and the handling of Letters to the editor submitted in response to those articles.

Dr Kageura has raised concerns about the way in which the correction to the record for the publications was handled. Dr Kageura has queried the fact that the journal has not issued Expressions of Concern for the articles. Expressions of Concern are intended to alert readers to concerns about a publication that may impact the validity of the findings and are, therefore, being investigated. Given that the two articles have been retracted, and that retractions de facto remove the publication from the literature, we do not view it as necessary or appropriate to issue Expressions of Concern for articles that have already been retracted.

Dr Kageura has also raised concerns about the content of the retraction notices published when the articles were retracted. He considers that the text of the notices does not adequately describe the concerns about the publications that supported their retraction. We would be grateful if you could comment on Dr Kageura's concerns about the retraction notices, could you please:

-

Provide information on the circumstances and process that informed what concerns would be mentioned in the retraction notice.

-

Dr Kageura indicates that the error in Table 1 is not adequately outlined in the retraction notice. Could you comment on the process that informed the evaluation of this error and the inaccuracies regarding the table and the dataset that should be outlined in the retraction notice.

Many thanks again for your attention to this matter. We look forward to hearing from you.

With best wishes,

Iratxe Puebla

Facilitation and Integrity Officer

Committee on Publication Ethics (COPE)

www.publicationethics.org

Registered charity No 1123023

Registered in England and Wales, Company No 6389120

Registered office: COPE, New Kings Court, Tollgate, Chandler's Ford, Eastleigh, Hampshire, SO53 3LG, UK

On behalf of

COPE Facilitation and Integrity subcommittee

Date: Mon, 8 Feb 2021 08:13:37 +0000
From: Iratxe Puebla <cope_assistant@publicationethics.org>
To: Kageura Kyo <kyo@p.u-tokyo.ac.jp>
Cc: Kim Eggleton <kim.eggleton@iopublishing.org>, Antonia Seymour
<antonia.seymour@iopublishing.org>, Shin-ichi Kurokawa
<shin-ichi.kurokawa@kek.jp>, shinichi.kurokawa@gmail.com, Yoh Tanimoto
<hoyt@mat.uniroma2.it>, yutaka hamaoka <hamaoka@fbc.keio.ac.jp>, Masaki
Oshikawa <masaki.oshikawa@gmail.com>, oshikawa@issp.u-tokyo.ac.jp, Jun
Makino <makino@mail.jmlab.jp>
Subject: Re: Concerns raised to the attention of COPE

Dear Dr Kageura,

I am writing to follow up on your queries in response to our review of the concerns regarding the letters to the editor submitted to the Journal of Radiological Protection.

As we indicated previously, the remit of the Facilitation and Integrity process is to undertake a review of the process that the journal followed in response to the concerns raised to their attention. It is beyond the scope of this process to evaluate the scientific content of publications, or the content of notifications posted on an article that pertain to the content. We review the information provided by the presenter and the journal and we assess whether the process described to us is consistent with the COPE guidelines for that particular issue. In this case, upon review of the information that you and the journal supplied, we determined that the journal followed a process consistent with COPE guidelines.

The retraction notice posted by the journal notes that some subjects within the study did not consent to their data being used for research. Thus, the ethical concerns about the study are made clear to readers: that is, some of the data were unconsented such that none of the data should be used in any future analysis.

Sincerely,

Iratxe

Iratxe Puebla
Facilitation and Integrity Officer
Committee on Publication Ethics (COPE)
www.publicationethics.org

Registered charity No 1123023
Registered in England and Wales, Company No 6389120
Registered office: COPE, New Kings Court, Tollgate, Chandler's Ford, Eastleigh, Hampshire,
S053 3LG, UK

On behalf of

COPE Facilitation and Integrity subcommittee

Dear Dr. Puebla and COPE committee,

After reading the response that Dr. Eggleton sent you on December 9, we are contacting you 1) to provide additional contextual information and 2) to express our concerns about her response.

1) We would like to make the following two points clear:

a) We are not interested in having our Letters published for any personal or career-related reasons. None of us will gain anything professionally from their publication.

b) We are acting solely out of a strong sense of social responsibility, given the enormous social implications of this matter. The aim of our Letters is to draw attention to the grave scientific flaws in the two papers, which include but go well beyond the use of unconsented data. The papers have already contributed to an underestimation of the individual dose rates of people in areas affected by the Fukushima nuclear disaster, and if their scientific flaws are not fully and publicly clarified, they will continue to influence government policy and social understanding in a way that may harm human health. The retraction of the papers for the reasons given is an insufficient response in this respect^[1].

2) We have a number of concerns about the response provided by Dr. Eggleton. The most serious of these are explained below.

a) In the first point in the timeline, it states that "One methodological error (identified in the first Letter) was also corrected in one of the retraction notices." The single methodological error mentioned in the retraction notice is in the last paragraph of

<https://iopscience.iop.org/article/10.1088/1361-6498/ab9ff0>

This issue was in fact identified in the fourth Letter:

<https://arxiv.org/abs/2003.05403>

Not only was that Letter neither published nor cited, but also the error was referred to in an extremely inadequate and erroneous way in the retraction notice:

- The retraction notice claims that the error was identified "Based on the investigation report". However, none of the investigation reports by the universities contains any reference to the error (a figure in Table 1). Also, the investigation report by Date city was

published on 17 March 2020 (and contained no explicit reference to this error), while our Letter was provisionally accepted on 16 March 2020.

- This error is not only a problem of a single number in Table 1, but suggests that the dataset of 2013 Q4 is mistaken, hence could affect the whole paper (including the second paper). No such concern is expressed in the retraction notice.
- In the other three Letters (provisionally accepted by JRP) we have pointed out a number of other errors, methodological problems and doubts that affect the main results of the retracted papers.

<https://arxiv.org/abs/2001.11912>

<https://arxiv.org/abs/1812.11453> (contains two Letters)

None of these issues has been mentioned in the retraction notices or in the editorial note.

b) Dr. Eggleton says that "Allegations of misconduct are managed according to COPE guidelines" and cites the ethical policy for IOP journals

<https://publishingsupport.iopscience.iop.org/ethical-policy-journals/>

which claims to follow the COPE guidelines. However, the COPE flowchart on "Suspected fabricated data in a published manuscript"

https://publicationethics.org/files/Full%20set%20of%20English%20flowcharts_9Nov2016.pdf

clearly instructs journals to "Contact author's institution requesting an investigation", and if "No or unsatisfactory response" is given, the journal should "Publish expression of concern" (or "contact a regulatory body"). As the universities have refused to reply to the query of JRP, it must publish an EOC on the points raised in our Letters. However, the only EOC published by JRP is this one on 11 January 2019

<https://iopscience.iop.org/article/10.1088/1361-6498/aa6094>

where no detail of the methodological miscalculation is given and no reference is made to any of the other errors identified in our Letters.

c) Dr. Eggleton says that "All IOPP journals follow the same policy relating to corrections" and cites this policy

<https://publishingsupport.iopscience.iop.org/questions/post-publication-corrections-to-journal-articles/>

Yet, in the retraction notices and the editorial note,

<https://iopscience.iop.org/article/10.1088/1361-6498/ab9ff0>

<https://iopscience.iop.org/article/10.1088/1361-6498/ab9ff1>

<https://iopscience.iop.org/article/10.1088/1361-6498/aba42a>

the only error ever mentioned in a concrete fashion (not vaguely as "various technical issues within Letter *") is the one about 2013 Q4 which we have seen is inadequately addressed, and there is no explicit reference to the other errors and problems we described in our Letters. No corrigendum or erratum has been published by JRP, and the only expression of concern is the one on 11 January 2019 which addresses only one of the methodological miscalculations. Even this last one has disappeared from the retraction notices and the editorial note.

Altogether, we believe that the scientific record of the retracted papers has not been corrected properly and the errors and problems pointed out in our Letters must be reported in the journal.

We would kindly ask COPE to take into account these points in its consideration of this matter.

Best regards,

Kyo Kageura
Yoh Tanimoto,
Shin-ichi Kurokawa
Jun Makino
Yutaka Hamaoka
Masaki Oshikawa

Note [1]: To give one example, the Radiation Council of Japan has recommended, based on research including the two papers, that the acceptable degree of food contamination and the criteria for decontamination after nuclear accidents should be reconsidered, as the current standards hinder the reconstruction of affected areas, including the return of evacuated people. After the use of unconsented data in the two papers was raised, the Radiation Council removed the papers from its reference list but did not change its recommendation, stating that the scientific conclusions in the papers were not totally denied. If the scientific record of the retracted papers is not properly corrected by JRP, the weakness in this part of the grounds of the Radiation Council's recommendation will not be revealed.

Dear Professor Tanimoto and colleagues,

Thank you for your patience while we have been waiting for COPE to advise whether they consider that we have followed their guidelines regarding the withdrawal of your four Letters. COPE's response can be found below:

COPE RESPONSE

The journal's decision to withdraw the acceptance of these letters is reasonable as the authors did not provide evidence that the data used in the letters were not based on the unconsented data. The authors need to be able to prove that the data they are using for their submission are valid and have the required ethical consent; if they are using third party data and cannot prove this, they should revise the submission or accept that the paper will not be published. The assumption is that the four letters, which could be critiquing one or both papers, come from at least two separate sets of authors, so there is no issue of salami letters.

If the letters are directly and solely based on the results of the affected papers, rejection should be straightforward. If they mention the papers among other cited research in a commentary or even a research type letter, the authors could remove the affected material and references, without referring to the retracted papers. If the letters cite the papers in the context of journalology, or criticise the same issues that underlie later retraction, it could be argued the letters could stay, with an explanatory editorial note (see for example <https://retractionwatch.com/2020/06/22/tortuous-and-torturous-why-publishing-a-critical-letter-to-the-editor-is-so-difficult/>).

An intermediate solution might be to consider adding a note indicating that the articles were retracted and why. The journal could then ask the authors of the letters to adapt what they have written with this in mind and focus on what else they might want to say. The editor could write a forward to this, outlining what was done and why the letters are being published as part of a debate around the issues involving the retraction.

The journal's policy is clear that they may decide to change the acceptance decision in exceptional circumstances. The journal might consider updating their policies or having their own code of conduct, based on COPE's core practices, in relation to submissions. In hindsight, perhaps the letters should not have been accepted during the investigation but rather put on hold first; a relevant office policy or process could be developed to prevent this in the future. It is also commendable that the journal has a statement on the consent from guardians/parents of children; the journal might wish to include a statement on assent.

We have interpreted the above as COPE advising that we should not publish the Letters, as they are "directly and solely based on the results of the

affected papers". The data the Letters are commenting on includes the glass badge data, which has been determined by the Date City investigation as being ethically unreliable as consent was not gathered from all participants.

COPE's alternative suggestion is that "the authors could remove the affected material and references, without referring to the retracted papers". However, we are of the opinion that removing material that concerns the glass badge data, including results and conclusions derived from the glass badge data would remove almost all the content of the Letters. However, if the Letter authors believe revisions to this extent are possible, the journal will consider revised versions of the Letters. Depending on the extent of changes made, the Letters may need to go through peer review again.

In summary, we take COPE's response to suggest two options:

1. The withdrawal of the Letters by IOP Publishing stands
2. The authors revise the Letters removing the affected material and references

We are also happy to keep open the offer to you of a new submission on general points about radiological protection after the Fukushima accident.

Again, we regret that the Letters were accepted before the investigation on the two retracted papers was complete. As previously stated, we have since updated our internal policies to ensure this does not happen again.

Please let us know how you would like to proceed.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'A Seymour', written in a cursive style.

Antonia Seymour

Dear COPE,

Thank you for sending us the complaint of Dr Kageura and inviting us to respond. Below you will find a detailed timeline of events relating to the Letters, as well as responses to your other queries. If there is more that you would like us to comment on, please do let us know. We appreciate COPE does not interfere with editorial decisions over content and will only advise whether we have followed the appropriate COPE guidelines.

We appreciate how frustrating our decision not to publish must be for these authors, and have expressed this multiple times in our communications with them. We believe we have acted throughout with integrity and appropriate caution in relation to this case, following COPE guidelines and principles. We have consulted with the Editor in Chief of the journal regarding the content of both the articles and the Letters, and have consulted with our legal department and research integrity panel on a very regular basis. We have always responded in a timely fashion with full transparency and attempted, wherever possible, to offer an ethically appropriate compromise. We agree the Letters should not have been accepted while an investigation was ongoing and have updated our internal best practice to ensure this does not happen again.

Details and a timeline of the follow up by the journal and publisher to address the concerns raised by Dr Kageura regarding the handling of the Letters and the reversal of the editorial decision to publish the Letters:

- Context: The two articles that were retracted were done so because they were found (through an external investigation) to be based upon data that was given without participant consent. This contravenes our ethical policy (<https://publishingsupport.iopscience.iop.org/ethical-policy-journals/>), and the authors agreed to the retractions. One methodological error (identified in the first Letter) was also corrected in one of the retraction notices.
- Before the investigation was completed, the journal received four letters (sent between August 2018 and March 2020) (the Letters) relating to these two articles, which were peer reviewed and accepted (the first accepted before we knew of the investigation – the authors of the retracted articles were preparing a response when we learned of the investigation), then placed on hold pending the outcome of the investigation.
- The decision not to publish the Letters was taken when IOP Publishing was made aware (4th June 2020) by the article authors of the outcome of the investigation which led to the two articles being retracted. As the Letters were based entirely on the two articles, it was agreed with the Editor in Chief and IOP Publishing's Research Integrity Panel that we could not, in good conscience, publish the Letters, as they contain a great deal of interpretation and analysis that was underpinned by the inappropriate data in the two original articles.
- This decision was communicated to Dr Kageura and colleagues on 8th July 2020, by a member of our editorial team. This included an apology and explanation as to why the Letters would not be published: "that they are drawing scientific conclusions based on a dataset that was given without participant consent". We explained this is in line with our author guidelines where it states: "in exceptional circumstances, we reserve the right to withdraw an article at any time before publishing" (<https://publishingsupport.iopscience.iop.org/questions/what-we-do-with-your-article-after-acceptance/>). We also explained to the Letter authors that we would be publishing an editorial related to the events (including reference to the Letters and why we would not be

publishing them), and we would like to publicly thank them in the editorial for notifying us of the methodological error that was corrected as part of the retraction notice.

- The authors emailed the Editor in Chief on 11th July 2020 objecting to the decision not to publish on the basis of the COPE Guide for Editors clause 3.1, "Editors should not reverse decisions to accept submissions unless serious problems are identified with the submission.", and that the Letters only "used (i) the information contained in the papers themselves and (ii) databases that are publicly available".
- The authors replied to our editorial team on 13th July 2020 asking when the authors told us about the investigation, and on what dates the investigation began and ended.
- The editorial team responded to the author's message (dated 11th July) on 14th July 2020, restating why we could not proceed, and advising the Letter authors that they could raise a case to COPE if they believed we were not acting in accordance with the COPE guidelines and principles. This correspondence also invited the Letter authors to submit "a Letter/Opinion article making general points about radiological protection after the Fukushima accident (covering inadequacy of technical analysis, etc), though not specifically referring to studies based on unconsented data".
- The authors contacted the Editor in Chief on 17th July 2020, asking for answers to their questions from 13th July 2020.
- IOP Publishing responded to the author's message (dated 13th July) on 21st July 2020, explaining that we cannot share details about the correspondence between our organisation and the authors of the two criticised Papers. We reemphasised that a timeline of key events would be published as part of a forthcoming editorial statement to provide the readership with a clear understanding of what steps the journal took in response to this situation as a whole. Additionally, we restated our earlier invitation to submit a Letter/Opinion article making general points about radiological protection after the Fukushima accident, though not specifically referring to studies based on unconsented data. Finally, we asked the authors to confirm if they wished to be named and thanked in the editorial statement.
- The authors responded on 27th July 2020 with a request for the timeline to include submission/editorial decision dates of the Letters and dates/information relating to the correspondence from the authors of the criticised Papers. The authors also requested that the timeline state that their Letters raised various technical/methodological issues within the criticised Papers. The authors declined to be acknowledged in the editorial statement should we uphold the decision not to publish the Letters.
- IOP Publishing responded on 28 July 2020 to confirm that the authors would not be acknowledged in the editorial statement. We further confirmed that the timeline would include the received and editorial decision dates of all the Letters. We explained that relevant messages from the editorial office to the two authors of the original papers, their responses and a brief summary would also be recorded in the timeline. For the avoidance of doubt, the authors were asked to confirm if they would like us to reference the Letters and all author names in the timeline, given that the preceding editorial statement would not acknowledge the authors and the Letters.
- The authors responded on 28th July 2020 confirming that they did wish to be referenced in the timeline.
- The authors wrote to a Director of IOP Publishing on 26th August 2020, requesting that the decision not to publish the Letters was overturned.
- The journal published a [Publisher's Note](#) on 28th August 2020 (including a timeline of events) relating to the retracted articles and the Letters, in the interests of transparency for readers.

- IOP Publishing submitted a case to COPE on 4th September 2020, seeking advice on whether we acted appropriately in withdrawing the Letters.
- The Publishing Director for IOP Publishing responded to the authors on 9th September 2020, restating the reasons why the Letters would not be published, reiterating the invitation to submit a more general piece, and advising the authors that we had written to COPE for advice on whether our actions to date had been appropriate, and if there was any alternative or additional action we should take.
- The authors responded on 15th September 2020, again requesting that the decision be overturned and highlighting another article in the same journal that referenced one of the now retracted papers. They also pointed to an error on the retraction notice, which stated that it was “unclear whether the unconsented data was ***provided*** to the authors”, when it should have said it was “unclear whether the unconsented data was ***used*** by the authors” (bold and italics added for emphasis).
- The Publishing Director for IOP Publishing responded on 24th September 2020, stating again the reason for withdrawing the Letters. We confirmed that there was an investigation ongoing into the article they highlighted in their most recent correspondence. We agreed to correct the mistake in the retraction notice, and suggested waiting for the advice from COPE before corresponding again.
- The authors responded on 1st October 2020, asking if we would be investigating the methodological issues raised in the Letters.
- The Publishing Director of IOP Publishing responded on 7th October 2020, explaining that we had requested investigations from the authors’ institutions, and that we also requested information about the ongoing investigation. We explained to the authors that we were given no information about the investigations at all, in fact we were explicitly told by one institution that they would not enter into any correspondence with us. We explained that our responsibility as publisher is to correct the scientific record based on the findings of any institutional investigation(s) as reported to us, which is what we have done. The only investigation we have been notified of any conclusion on is the Date City investigation, which only commented on the issues of participant consent. We do not have any power to influence institutions’ actions or decisions. Again, we suggested waiting for the advice from COPE before corresponding again.
- The authors responded on 13th October 2020, expressing concern that we did not pursue the institutions regarding the alleged methodological errors, and provided an example of where they have told a journalist of the methodological errors.
- COPE’s advice was received by IOP Publishing on 19th October 2020, a summary of which is below (full version in Appendix A):
 - “If the letters are directly and solely based on the results of the affected papers, rejection should be straightforward”
 - “If they mention the papers among other cited research in a commentary or even a research type letter, the authors could remove the affected material and references, without referring to the retracted papers”
 - “If the letters cite the papers in the context of journalology, or criticise the same issues that underlie later retraction, it could be argued the letters could stay, with an explanatory editorial note”
- The Publishing Director of IOP Publishing sent the unedited COPE advice to the authors on 26th October, explaining that we do not believe this gives any justification for publishing the

Letters, but inviting the authors to revise the Letters removing the affected material and references if they could.

- The authors responded on 30th October 2020, suggesting IOP Publishing had not given COPE all the facts of the situation, and requesting a copy of what was sent to COPE. The authors have a different interpretation of the COPE ruling to IOP Publishing and argue that the Letters should be published, rebutting the first two options COPE presented and saying that that the third option is justification for publication in this case.
- IOP Publishing updated the retraction notices on 6th November 2020 to say “it is unclear whether the unconsented data was used by the authors in their paper”.
- The Publishing Director of IOP Publishing responded to the authors on 9th November 2020, attaching a full copy of the case we sent to COPE and your response. We reiterated why we believe the COPE advice supports our decision not to publish, in summary:
 - The Letters are directly and solely based on the results of the affected papers
 - Removing the affected material and references from the Letters would remove all the content of the Letters
 - The Letters do not fit the criteria of journalology (the scientific study of publishing), and they do not comment on issues that underlie the retractions (unethically collected data)
 - We reiterated the invitation to submit a more general Letter on issues relating to radiological protection
 - We suggested the authors raise their own case with COPE if they were still unsatisfied.
- The authors responded on 13th November 2020, reiterating the many concerns they have with our decision and responses, and informing us they would be submitting a case to COPE.

Information on the journal policies to handle critiques about published content raised after publication.

- The journal welcomes comments and criticisms of work published in the journal. These are most commonly submitted as Comment pieces (description at <https://publishingsupport.iopscience.iop.org/questions/article-types/>). These pieces go through the same peer review as any other paper. If accepted, the authors of the original work are invited to submit a reply. At the time the Letters were submitted, there was no formal internal policy on how to handle papers in review or press that cite articles undergoing investigation. We have since corrected this and there are now clear guidelines for all staff that any submissions relating to papers currently under any kind of ethical investigations should be put on hold BEFORE acceptance.
- Allegations of misconduct are managed according to COPE guidelines, see the section “Handling cases of alleged misconduct” in our ethical policy (<https://publishingsupport.iopscience.iop.org/ethical-policy-journals/>)

Information on the journal and publisher policies to handle corrections to the published record

- All IOPP journals follow the same policy relating to corrections, see <https://publishingsupport.iopscience.iop.org/questions/post-publication-corrections-to-journal-articles/>.

Again, we would like to reiterate that we sympathise with the frustration of the authors, but ultimately stand by our decision not to publish work that is based upon research that has been found to use unethically collected data. We have offered the authors the opportunity to submit a more general piece, and have sought advice from the Editor in Chief, our Research Integrity Panel, our legal team and the Committee for Publication Ethics. We have been transparent in all our dealings in relation to the articles and the Letters, including publishing a Publisher's Note to explain the events surrounding the retractions. Short of publishing the Letters (against the judgement of all those listed above), we do not see what further action we could take to satisfy these authors.

We look forward to receiving any further advice from the COPE committee on whether we have acted appropriately in this case, and if there is any further action we should take.

Yours sincerely,

Kim Eggleton

Research Integrity & Inclusion Manager

IOP Publishing

Appendix A: COPE case and response

Withdrawal of acceptance based on potentially unconsented data

Two papers were retracted (without dispute from the authors) after a lengthy investigation. It was discovered that some of the data used in these articles were gathered without participant consent for the study or for publication (no participants are identifiable). The investigation was conducted by a public body in the country of the authors, and the journal has been told that they will not be provided with the specific details of the ethically inappropriate data. The investigation also identified a small number of methodological errors, which have also been mentioned in the retraction notices.

During the investigation, four separate letters based on the two articles were submitted, peer reviewed and accepted. They were not published immediately and were placed on hold while the investigation was being completed. On completion of the investigation, the journal revisited the content of the letters, and asked the editor in chief and deputy editor of the journal for their opinions. Because the journal does not have the specific details of the ethically inappropriate data, it was not felt possible to independently verify with certainty whether or not the four letters were free of the use of the ethically inappropriate data. Given that the four letters were heavily based on the papers and cite data, figures, and equations, the decision was made not to publish the letters.

The authors have complained that the journal has gone against COPE guidelines "3.1 Editors should not reverse decisions to accept submissions unless serious problems are identified with the submission". The journal guidelines state that the journal has "the right to withdraw acceptance at any time before publishing, in exceptional circumstances", and also that "Informed consent to participate in the study should be obtained from participants (or their parent or legal guardian in the case of children under 16) for all research involving human subjects". The authors are arguing that their letters do not use the unconsented data. Again, the journal has stated that there is no way to independently verify with certainty whether or not the four letters were free of the use of the ethically inappropriate data, and therefore do not feel comfortable publishing the work.

The journal invited the authors to submit a new letter based on the papers that is more general and that does not use the unconsented data (appreciating it is difficult to know what that is). They have not responded to this invitation.

Questions

1. Was the journal right to withdraw the accept offers for the four letters?
2. Is there any specific guidance that covers articles that comment on retracted papers and what is permissible?

Advice

The journal's decision to withdraw the acceptance of these letters is reasonable as the authors did not provide evidence that the data used in the letters were not based on the unconsented data. The authors need to be able to prove that the data they are using for their submission are valid and have the required ethical consent; if they are using third party data and cannot prove this, they should revise the submission or accept that the paper will not be published. The assumption is that the four

letters, which could be critiquing one or both papers, come from at least two separate sets of authors, so there is no issue of salami letters.

If the letters are directly and solely based on the results of the affected papers, rejection should be straightforward. If they mention the papers among other cited research in a commentary, or even a research type letter, the authors could remove the affected material and references, without referring to the retracted papers. If the letters cite the papers in the context of journalology, or criticise the same issues that underlie later retraction, it could be argued the letters could stay, with an explanatory editorial note (see for example <https://retractionwatch.com/2020/06/22/tortuous-and-torturous-why-publishing-a-critical-letter-to-the-editor-is-so-difficult/>).

An intermediate solution might be to consider adding a note indicating that the articles were retracted and why. The journal could then ask the authors of the letters to adapt what they have written with this in mind and focus on what else they might want to say. The editor could write a forward to this, outlining what was done and why the letters are being published as part of a debate around the issues involving the retraction.

The journal's policy is clear that they may decide to change the acceptance decision in exceptional circumstances. The journal might consider updating their policies or having their own code of conduct, based on COPE's core practices, in relation to submissions. In hindsight, perhaps the letters should not have been accepted during the investigation but rather put on hold first; a relevant office policy or process could be developed to prevent this in the future. It is also commendable that the journal has a statement on the consent from guardians/parents of children; the journal might wish to include a statement on assent.

Presenter of case: Kyo Kageura

COPE member involved: *Journal of Radiological Protection* (IOP)

Date at which case was received: 17 November 2020

Articles involved

Individual external dose monitoring of all citizens of Date City by passive dosimeter 5 to 51 months after the Fukushima NPP accident (series): 1. Comparison of individual dose with ambient dose rate monitored by aircraft surveys

Makoto Miyazaki and Ryugo Hayano

Journal of Radiological Protection, Volume 37, Number 1

Individual external dose monitoring of all citizens of Date City by passive dosimeter 5 to 51 months after the Fukushima NPP accident (series): II. Prediction of lifetime additional effective dose and evaluating the effect of decontamination on individual dose

Makoto Miyazaki and Ryugo Hayano

Journal of Radiological Protection, Volume 37, Number 3

Summary of issue, as outlined by presenter

1. The issue involves four Letters submitted to the *Journal of Radiological Protection* (JRP), all of which were accepted (Letter 1, on 23 March 2020) or provisionally accepted by April 2020. The Letters pointed out scientific problems in two Articles published in JRP by Makoto Miyazaki and Ryugo Hayano on radiation doses of citizens of Date city, Japan, after the Fukushima nuclear power plant accident.

2. Miyazaki and Hayano informed JRP in June 2020 that Date city had concluded (on 17 March and we do not know why it took almost 3 months for them to tell it to JRP) its ethics investigation into their data, finding that a part of the data was collected without consent. The JRP editor retracted the Articles on 28 July.

3. The JRP editor, in an email dated 8 July 2020 addressed to the author of Letter 1 (Email 01 in the supporting documents), notified us of their decision not to publish our Letters, and told him that JRP "should not proceed with the publication of any of the four Letters, on the same basis, i.e. that they are drawing scientific conclusions based on a dataset that was given without participant consent." When we pointed out that we had not used the same dataset and drawn only meta-scientific conclusions, JRP insisted that it could not publish ours because ours cite the Articles with the mentioned problems (Email 02). Later JRP issued an editorial that contains information that they claimed inappropriate in our Letters. When we wrote to the publishing house IOPP, it confirmed the decision not to publish our Letters but asked COPE for opinion.

4. We find this handling unpersuasive. First, every time, JRP and IOPP gave different explanations of why they cannot publish our Letters. This should not have happened if there really were serious problems in our Letters. Second, each single explanation is either incorrect or inconclusive:

- Our Letters drew only meta-scientific conclusions about the problems in the Articles, relying only on graphs, tables and texts in the published Articles or information that had been obtained through due procedures, not on the unconsented data used in the Articles.

- There are multiple cases of letters about retracted papers being published in scientific journals.

- In the editorial, JRP failed to clarify whether our Letters had used ethically inappropriate data.

5. We observe:

- The editorial decision was not well-founded,

- The editorial communication involves serious anomalies and deficiencies,

- JRP's handling of this matter also hampers healthy scientific communication, because its decision to withdraw our Letters blocks scientific communication about the content of the Articles, with serious implications for public health.

6. As our Letters were (provisionally) accepted and no clear problems have been identified, JRP must published them. It is even more so, because our Letters point out serious scientific problems in the original Articles, that might be regarded as research misconducts.

What aspects of the Core Practices do you believe that the member is contravening, and why

3. Complaints and appeals

JRP editors are not addressing our questions and claims properly, choosing not to respond to some of our specific questions and claims, instead reiterating their claims but by changing the basis.

8. Journal management

JRP editors' decision not to publish our Letters was first explained on the false basis and then insisted in rather general terms, then "it was not felt possible to independently verify with certainty" that there was no problem. The decision making process lacks transparency.

JRP editors notified their decision not to publish our Letters in one e-mail sent to the corresponding authors but addressed to the author of Letter 1.

Given that each Letter addresses different issues observed in the Articles, this also indicates that our Letters themselves have no problems in terms of their content. Then the reasons the JRP editor gave are not of relevance to our Letters.

9. Peer review processes

Our four Letters all went through due peer review process and were accepted or provisionally accepted for publication in JRP. That JRP editors overturn the decisions to accept or provisionally accept our Letters on a very general and rather vague basis, and have failed to point out where we used "unconsented data" (this is an abusive use of term: we have never received the original data, but

analyzed the graphs and tables of the published papers that are only synthetic and not attributed to any single participant). This seems to be inconsistent with the following term of the COPE guidelines:

"3.2. Editors should not reverse decisions to accept submissions unless serious problems are identified WITH THE SUBMISSION."

http://publicationethics.org/files/Code_of_conduct_for_journal_editors_Mar11.pdf

So far, the JRP editor has failed to show any "serious problem" "identified with" our Letters, but instead "not felt possible to independently verify with certainty whether or not the four Letters were free of the use of the ethically inappropriate data". This is not an identification of problems. Please note that the JRP editor mentioned COPE to justify their decision.

Member's response

Thank you for sending us the complaint of Dr Kageura and inviting us to respond. Below you will find a detailed timeline of events relating to the Letters, as well as responses to your other queries. If there is more that you would like us to comment on, please do let us know. We appreciate COPE does not interfere with editorial decisions over content and will only advise whether we have followed the appropriate COPE guidelines.

We appreciate how frustrating our decision not to publish must be for these authors, and have expressed this multiple times in our communications with them. We believe we have acted throughout with integrity and appropriate caution in relation to this case, following COPE guidelines and principles. We have consulted with the Editor in Chief of the journal regarding the content of both the articles and the Letters, and have consulted with our legal department and research integrity panel on a very regular basis. We have always responded in a timely fashion with full transparency and attempted, wherever possible, to offer an ethically appropriate compromise. We agree the Letters should not have been accepted while an investigation was ongoing and have updated our internal best practice to ensure this does not happen again.

Details and a timeline of the follow up by the journal and publisher to address the concerns raised by Dr Kageura regarding the handling of the Letters and the reversal of the editorial decision to publish the Letters:

- Context: The two articles that were retracted were done so because they were found (through an external investigation) to be based upon data that was given without participant consent. This contravenes our ethical policy (<https://publishingsupport.iopscience.iop.org/ethical-policy-journals/>), and the authors agreed to the retractions. One methodological error (identified in the first Letter) was also corrected in one of the retraction notices.
- Before the investigation was completed, the journal received four letters (sent between August 2018 and March 2020) (the Letters) relating to these two articles, which were peer reviewed and accepted (the first accepted before we knew of the investigation – the authors of the

retracted articles were preparing a response when we learned of the investigation), then placed on hold pending the outcome of the investigation.

- The decision not to publish the Letters was taken when IOP Publishing was made aware (4th June 2020) by the article authors of the outcome of the investigation which led to the two articles being retracted. As the Letters were based entirely on the two articles, it was agreed with the Editor in Chief and IOP Publishing's Research Integrity Panel that we could not, in good conscience, publish the Letters, as they contain a great deal of interpretation and analysis that was underpinned by the inappropriate data in the two original articles.
- This decision was communicated to Dr Kageura and colleagues on 8th July 2020, by a member of our editorial team. This included an apology and explanation as to why the Letters would not be published: "that they are drawing scientific conclusions based on a dataset that was given without participant consent". We explained this is in line with our author guidelines where it states: "in exceptional circumstances, we reserve the right to withdraw an article at any time before publishing" (<https://publishingsupport.iopscience.iop.org/questions/what-we-do-with-your-article-after-acceptance/>). We also explained to the Letter authors that we would be publishing an editorial related to the events (including reference to the Letters and why we would not be publishing them), and we would like to publicly thank them in the editorial for notifying us of the methodological error that was corrected as part of the retraction notice.
- The authors emailed the Editor in Chief on 11th July 2020 objecting to the decision not to publish on the basis of the COPE Guide for Editors clause 3.1, "Editors should not reverse decisions to accept submissions unless serious problems are identified with the submission.", and that the Letters only "used (i) the information contained in the papers themselves and (ii) databases that are publicly available".
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referring to studies based on unconsented data. Finally, we asked the authors to confirm if they wished to be named and thanked in the editorial statement.

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- The authors responded on 1st October 2020, asking if we would be investigating the methodological issues raised in the Letters.

- The Publishing Director of IOP Publishing responded on 7th October 2020, explaining that we had requested investigations from the authors' institutions, and that we also requested information about the ongoing investigation. We explained to the authors that we were given no information about the investigations at all, in fact we were explicitly told by one institution that they would not enter into any correspondence with us. We explained that our responsibility as publisher is to correct the scientific record based on the findings of any institutional investigation(s) as reported to us, which is what we have done. The only investigation we have been notified of any conclusion on is the Date City investigation, which only commented on the issues of participant consent. We do not have any power to influence institutions' actions or decisions. Again, we suggested waiting for the advice from COPE before corresponding again.
- The authors responded on 13th October 2020, expressing concern that we did not pursue the institutions regarding the alleged methodological errors, and provided an example of where they have told a journalist of the methodological errors.
- COPE's advice was received by IOP Publishing on 19th October 2020, a summary of which is below (full version in Appendix A):

- "If the letters are directly and solely based on the results of the affected papers, rejection should be straightforward"

- "If they mention the papers among other cited research in a commentary or even a research type letter, the authors could remove the affected material and references, without referring to the retracted papers"

- "If the letters cite the papers in the context of journalology, or criticise the same issues that underlie later retraction, it could be argued the letters could stay, with an explanatory editorial note"

- The Publishing Director of IOP Publishing sent the unedited COPE advice to the authors on 26th October, explaining that we do not believe this gives any justification for publishing the Letters, but inviting the authors to revise the Letters removing the affected material and references if they could.
- The authors responded on 30th October 2020, suggesting IOP Publishing had not given COPE all the facts of the situation, and requesting a copy of what was sent to COPE. The authors have a different interpretation of the COPE ruling to IOP Publishing and argue that the Letters should be published, rebutting the first two options COPE presented and saying that that the third option is justification for publication in this case.
- IOP Publishing updated the retraction notices on 6th November 2020 to say "it is unclear whether the unconsented data was used by the authors in their paper".
- The Publishing Director of IOP Publishing responded to the authors on 9th November 2020, attaching a full copy of the case we sent to COPE and your response. We reiterated why we believe the COPE advice supports our decision not to publish, in summary:

- The Letters are directly and solely based on the results of the affected papers

- o Removing the affected material and references from the Letters would remove all the content of the Letters
- o The Letters do not fit the criteria of journalology (the scientific study of publishing), and they do not comment on issues that underlie the retractions (unethically collected data)
- o We reiterated the invitation to submit a more general Letter on issues relating to radiological protection
- o We suggested the authors raise their own case with COPE if they were still unsatisfied.
- The authors responded on 13th November 2020, reiterating the many concerns they have with our decision and responses, and informing us they would be submitting a case to COPE.

Information on the journal policies to handle critiques about published content raised after publication.

- The journal welcomes comments and criticisms of work published in the journal. These are most commonly submitted as Comment pieces (description at <https://publishingsupport.iopscience.iop.org/questions/article-types/>). These pieces go through the same peer review as any other paper. If accepted, the authors of the original work are invited to submit a reply. At the time the Letters were submitted, there was no formal internal policy on how to handle papers in review or press that cite articles undergoing investigation. We have since corrected this and there are now clear guidelines for all staff that any submissions relating to papers currently under any kind of ethical investigations should be put on hold BEFORE acceptance.
- Allegations of misconduct are managed according to COPE guidelines, see the section “Handling cases of alleged misconduct” in our ethical policy (<https://publishingsupport.iopscience.iop.org/ethical-policy-journals/>)

Information on the journal and publisher policies to handle corrections to the published record

- All IOPP journals follow the same policy relating to corrections, see <https://publishingsupport.iopscience.iop.org/questions/post-publication-corrections-to-journal-articles/>.

Again, we would like to reiterate that we sympathise with the frustration of the authors, but ultimately stand by our decision not to publish work that is based upon research that has been found to use unethically collected data. We have offered the authors the opportunity to submit a more general piece, and have sought advice from the Editor in Chief, our Research Integrity Panel, our legal team and the Committee for Publication Ethics. We have been transparent in all our dealings in relation to the articles and the Letters, including publishing a Publisher’s Note to explain the events surrounding the retractions. Short of publishing the Letters (against the judgement of all those listed above), we do not see what further action we could take to satisfy these authors.

We look forward to receiving any further advice from the COPE committee on whether we have acted appropriately in this case, and if there is any further action we should take.

Appendix A: COPE case and response

Withdrawal of acceptance based on potentially unconsented data

Two papers were retracted (without dispute from the authors) after a lengthy investigation. It was discovered that some of the data used in these articles were gathered without participant consent for the study or for publication (no participants are identifiable). The investigation was conducted by a public body in the country of the authors, and the journal has been told that they will not be provided with the specific details of the ethically inappropriate data. The investigation also identified a small number of methodological errors, which have also been mentioned in the retraction notices.

During the investigation, four separate letters based on the two articles were submitted, peer reviewed and accepted. They were not published immediately and were placed on hold while the investigation was being completed. On completion of the investigation, the journal revisited the content of the letters, and asked the editor in chief and deputy editor of the journal for their opinions. Because the journal does not have the specific details of the ethically inappropriate data, it was not felt possible to independently verify with certainty whether or not the four letters were free of the use of the ethically inappropriate data. Given that the four letters were heavily based on the papers and cite data, figures, and equations, the decision was made not to publish the letters.

The authors have complained that the journal has gone against COPE guidelines "3.1 Editors should not reverse decisions to accept submissions unless serious problems are identified with the submission". The journal guidelines state that the journal has "the right to withdraw acceptance at any time before publishing, in exceptional circumstances", and also that "Informed consent to participate in the study should be obtained from participants (or their parent or legal guardian in the case of children under 16) for all research involving human subjects". The authors are arguing that their letters do not use the unconsented data. Again, the journal has stated that there is no way to independently verify with certainty whether or not the four letters were free of the use of the ethically inappropriate data, and therefore do not feel comfortable publishing the work.

The journal invited the authors to submit a new letter based on the papers that is more general and that does not use the unconsented data (appreciating it is difficult to know what that is). They have not responded to this invitation.

Questions

1. Was the journal right to withdraw the accept offers for the four letters?
2. Is there any specific guidance that covers articles that comment on retracted papers and what is permissible?

Advice

The journal's decision to withdraw the acceptance of these letters is reasonable as the authors did not provide evidence that the data used in the letters were not based on the unconsented data. The authors need to be able to prove that the data they are using for their submission are valid and have the required ethical consent; if they are using third party data and cannot prove this, they should revise the submission or accept that the paper will not be published. The assumption is that the four

letters, which could be critiquing one or both papers, come from at least two separate sets of authors, so there is no issue of salami letters.

If the letters are directly and solely based on the results of the affected papers, rejection should be straightforward. If they mention the papers among other cited research in a commentary, or even a research type letter, the authors could remove the affected material and references, without referring to the retracted papers. If the letters cite the papers in the context of journalology, or criticise the same issues that underlie later retraction, it could be argued the letters could stay, with an explanatory editorial note (see for example <https://retractionwatch.com/2020/06/22/tortuous-and-torturous-why-publishing-a-critical-letter-to-the-editor-is-so-difficult/>).

An intermediate solution might be to consider adding a note indicating that the articles were retracted and why. The journal could then ask the authors of the letters to adapt what they have written with this in mind and focus on what else they might want to say. The editor could write a forward to this, outlining what was done and why the letters are being published as part of a debate around the issues involving the retraction.

The journal's policy is clear that they may decide to change the acceptance decision in exceptional circumstances. The journal might consider updating their policies or having their own code of conduct, based on COPE's core practices, in relation to submissions. In hindsight, perhaps the letters should not have been accepted during the investigation but rather put on hold first; a relevant office policy or process could be developed to prevent this in the future. It is also commendable that the journal has a statement on the consent from guardians/parents of children; the journal might wish to include a statement on assent.

Member's response to COPE's request for additional comments on the handling of the retraction notice and the information t provided about the underlying issues with the publications

Thank you for your follow up email. We are happy to provide the information you've requested.

Provide information on the circumstances and process that informed what concerns would be mentioned in the retraction notice.

The retractions to the two articles were made on the basis of the findings of the Date City investigation, as reported to us by the authors of the articles (Miyazaki and Hayano). The investigation confirmed that some of the data used in the articles was gathered without participant consent, and therefore should not have been used. This falls under the criteria in COPE's retraction guidelines as "It contains material or data without authorisation for use". Other concerns raised by Dr Kageura and colleagues were not

part of these investigations (to the best of our knowledge). To date these allegations are therefore unproven and as such, have not formed part of the retractions. We are in the process of updating the retraction notice for the second article to acknowledge and correct two errors that were identified in the first Letter for which the authors have now provided some corrections. If further errors are confirmed (either by the authors themselves or as a result of an investigation) we will update the retraction notices further, as per the COPE guidelines "clear evidence that the findings are unreliable, either as a result of major error (eg, miscalculation or experimental error), or as a result of fabrication (eg, of data) or falsification (eg, image manipulation)".

Dr Kageura indicates that the error in Table 1 is not outlined in the retraction notice. Could you comment on the process that informed the evaluation of this error and the inaccuracies regarding the table and the dataset that should be outlined in the retraction notice.

When the authors of the retracted articles (Miyazaki and Hayano) confirmed to us the results of the Date City investigation, they also mentioned to us that the investigation report presented a different number of glass badge holders in 2014 3Q (12912) to that in the article (21080). The authors queried this with their contact at Date City, who confirmed that the number in the report was correct and that the authors had been given the wrong number by Date City when they were originally sent the data. As this number has been confirmed as incorrect by the authors and the data provider we were obliged to report this error to readers via the retraction notice, see <https://iopscience.iop.org/article/10.1088/1361-6498/ab9ff0>.

Expressions of concern were placed on both (now retracted articles) in January 2019 - these can still be seen on the article pages (between the abstract and article full-text) <https://iopscience.iop.org/article/10.1088/1361-6498/37/1/1> and <https://iopscience.iop.org/article/10.1088/1361-6498/aa6094>.

We are happy to comment further if the committee has additional questions.

COPE's review

A member of the Facilitation & Integrity subcommittee reviewed the case. Upon review of the information that the presenter submitted the case was deemed to fall within the scope of the Facilitation & Integrity process.

COPE approached the *Journal of Radiological Protection* for comments on the concerns raised by Dr Kageura. The journal provided a response and indicated they had followed up on the concerns in a process that involved contacts with the authors of the letters upon the decision to retract the publications that they were commenting on. The decision to retract was taken following an institutional investigation that established the data on which the published articles were based was given without consent. The journal considered the different requests from the authors of the letters and provided information on the steps that they were taking to correct the record. The journal informed the authors of the letters that, per journal policy, decisions for acceptance could be reversed in exceptional circumstances and offered the authors the possibility of submitting a new letter to the Editor which did not refer to the data obtained without consent. The *Journal of Radiological Protection* acknowledged

that the letters should not have been accepted while an institutional investigation was in progress and indicated that they had updated their processes to prevent such a situation arising in the future. The journal also requested a further institutional investigation into methodological concerns raised about the study, and submitted the case to COPE for advice.

The presenter commented on the member's response and raised concerns about the fact that an Expression of Concern had not been issued on the articles, and about the retraction notices issued, as he considered that they do not adequately describe the concerns about the publications that supported their retraction. The Facilitation & Integrity subcommittee indicated that it is not necessary or appropriate to issue Expressions of Concern for articles that have already been retracted, and asked the journal for further comments on the process that informed what information to outline in the retraction notices. The journal indicated that the notices were developed on the basis of the outcome of the institutional investigation, and the items which the institutional report confirmed as concerns. The journal also indicated that they would be correcting two errors in one of the articles for which they have now received confirmation from the authors.

The Facilitation & Integrity subcommittee member reviewed the information provided by the publisher and established that it provided adequate procedural information on the journal's follow up.

Conclusions

Upon consideration of the concerns and the member's response, the Facilitation & Integrity subcommittee concluded that the journal followed an adequate process to handle the concerns raised about the reversal of the acceptance decision for the letters to the Editor.

The journal took the decision to reverse the acceptance following an institutional investigation which led to the retraction of the publications that the letters were related to, and in consideration of the journal's documented processes which note that acceptance decisions can be reversed in certain circumstances. The publisher apologized to the authors of the letters and offered them the possibility of submitting a new letter to the Editor that did not rely on data reported in the retracted articles. The publisher has taken steps to update the retraction notice where this was established to be necessary to provide accurate information to readers. The publisher also sought advice from COPE in relation to the decision not to publish the letters.

The Facilitation & Integrity subcommittee agrees with the publisher that the processing of the letters should have been placed on hold when the journal was informed about an institutional investigation about the published studies, and welcomes the steps taken by the publisher to update their processes so that in future, if an investigation is ongoing, the processing of related submissions is paused.

COPE's review is focused on an assessment of the process that the journal and publisher followed to evaluate the concerns raised. In this case, the Facilitation & Integrity subcommittee considers that the publisher followed an adequate process to follow up on the concerns raised by the authors of the letters.

Disclaimer

COPE accepts no liability for any loss or damage caused or occasioned as a result of advice given by them or by any COPE member. Advice given by COPE and its members is not given for the purposes of court proceedings within any jurisdiction and may not be cited or relied upon for this purpose.

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