



ITALIANS, SCIENCE AND TECHNOLOGY

Yearbook 2018

The Yearbook 'Italians, Science and Technology' is an initiative of Observa Science in Society developed with the support of the Compagnia di San Paolo. The Yearbook contains the data of surveys conducted with the Science, Technology and Society Observatory in close contact with the main institutions active in the study of relationships occurring between science and public opinion, such as the London School of Economics and the Wellcome Trust (United Kingdom), Vetenskap & Allmänhet (Sweden), the University of Oslo (Norway) and the University of Hiroshima (Japan).

The English Yearbook version gathers part of the data collected with the national survey conducted in 2017.

The activities and periodical research of the Observatory and projects carried out by Observa are accessible on the www.observa.it website and regularly cited by numerous national and international newspapers, including TuttoScienze e Tecnologia - La Stampa , Nòva24 - Il Sole 24 Ore, Panorama, The Sciences, Nature, Il Corriere della Sera and Superquark.

ITALIANS, SCIENCE AND TECHNOLOGY - Yearbook 2018

Texts by Barbara Saracino, Massimiano Bucchi and Giuseppe Pellegrini.

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THE SCIENCE, TECHNOLOGY AND SOCIETY OBSERVATORY 2018 REPORT

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Exposure to science and technology

The use of scientific and technological content through the various media and social networking services, visits to museums or scientific exhibitions, participation in public meetings or debates can be considered as important background indicators of the relationship between science and citizens.

In 2017, in a ranking of the media most frequently used television appears in the highest position. Newspapers follow in second place, while websites and blogs are ranked third, magazines occupy the fourth position and radio ranks fifth. 75% of Italians state that they watch television programmes about science and technology and two thirds of the population say they read newspaper articles at least once a month. More than half of those interviewed consult websites and blogs or read magazines and more than a third listen to radio shows which deal with topics related to science and technology.

However, these percentages decrease considerably if we consider only the subjects who are able to remember the name of at least one programme they have followed, a website that they have accessed, a publication they have read or a radio programme they have listened to; many people are not able to provide this information and seem not to notice the specific source from which they receive information (table 1).

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Table 1 - Frequency with which Italians declare they access contents related to science and technology present in the media (%; 2017: n = 997)

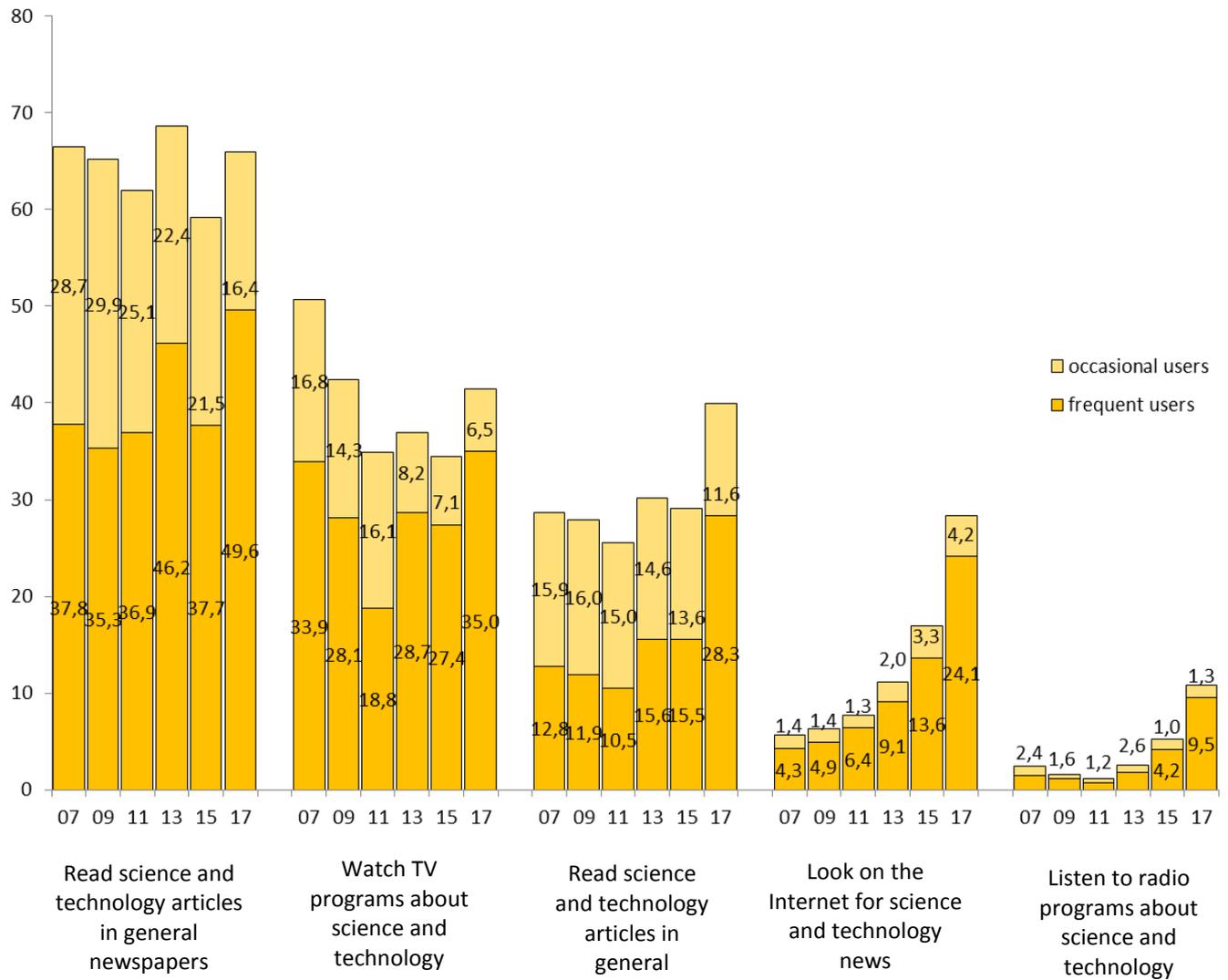
	Every day	2 or 3 times a week	Once a week	Once a month	Never
Watch television programmes that focus on science and technology	11.4 (8.3)	24.7 (15.6)	18.8 (11.1)	20.1 (6.5)	25.0 (58.5)
Read articles that focus on science in daily newspapers	13.5	18.1	18.0	16.4	34.0
Consult websites/blogs on science and technology	13.3 (8.8)	17.7 (8.3)	13.3 (7.0)	13.7 (4.2)	42.0 (71.7)
Read magazines that focus on science and technology	6.9 (6.2)	14.7 (11.6)	14.2 (10.5)	20.9 (11.6)	43.3 (60.1)
Listen to radio programmes that focus on science and technology	5.1 (2.8)	10.1 (3.3)	9.9 (3.4)	11.0 (1.3)	63.9 (89.2)

Note: The percentages of respondents who remember the name of at least one newspaper they have read or a programme they have followed are indicated in brackets.

With respect to subjects who indicate a name the television programmes referred to are the following: Tg Leonardo, SuperQuark, Come è fatto, Ulisse, Passaggio a Nord Ovest, Geo&Geo, Voyager and Atlantide. A certain amount of attention is also paid to the Sky Discovery, National Geography and Focus channels. In Internet, Italians acquire information about science and technology mainly by consulting Google and Wikipedia, by reading online journals and newspapers and consulting posts inserted in the social networks. The most frequently followed radio programme that focuses on science and technology is undoubtedly Radio3 Scienza, but many people also mention the programmes broadcast by Radio24. The magazine Focus is undoubtedly among those most often referred to; this is in fact the medium for which there is the lowest variety of cited sources.

The data collected in 2013 seemed to collectively highlight an increase in interest in scientific-technological content presented by the various media, while in 2015 the general increase in exposure to scientific subjects in the media suffered a setback, however in 2017 in particular the number of frequent users of the group of media sources considered grew considerably and attained peaks that had never been seen in previous years (Figure 1). It is moreover especially interesting to note the percentage of citizens who consult the web at least once a week to learn about science and technology because this is the value that has grown most of all, revealing an increase of 20% over a period of ten years.

Fig. 1 Frequent and occasional exposure to science in the media (% of respondents who recall the name of the publication they have read or a programme they have followed; 2009: n = 1020; 2010: n = 985; 2011: n = 1001; 2013: n = 1005; 2015: n = 999; 2017: n = 997).



As previously mentioned - owing to the fact an ever-increasing proportion of citizens come into contact with scientific-technological topics through the web - this year (as in 2015) the Science, Technology and Society Observatory has once again undertaken an investigation of the dissemination of the use and exchange of posts, images or video recordings that present content relating to science and technology in the most frequently used social networks.

In 2017 almost 70% of Italians used Facebook and YouTube and about half of Italy's citizens made use of Instagram and Twitter. Among those who use the first two social networks referred to above less than 30% have never read or seen content related to science and technology, while among those who have an Instagram and Twitter account the share exceeds 50%.

Table 2 - Reading, viewing or sharing of content related to science and technology in social networks (%; 2015: n = 999; 2017: n = 997)

			Facebook	Twitter	Instagram	YouTube
I do not know		2015	36.0	60.2	59.4	36.1
		2017	32.7	51.8	48.3	32.8
I have had occasion to read or see content related to science and technology	Never	2015	33.3	72.2	80.9	37.5
		2017	29.7	53.1	57.5	24.5
	Sometimes	2015	35.2	19.9	13.6	44.1
		2017	28.1	28.1	24.1	40.1
	Often	2015	31.5	7.8	5.5	18.4
		2017	42.2	18.8	18.4	35.4
I have had occasion to share content related to science and technology	Never	2015	51.8	86	91.4	75.4
		2017	42.7	66.6	70.5	65.3
	Sometimes	2015	37.8	10	5.4	18.6
		2017	39.2	23.5	19.9	24.7
	Often	2015	10.5	3.9	3.3	5.9
		2017	18.1	9.9	9.6	10.0

In general, more than seven out of ten Italians have had occasion to read or view science and technology content on Facebook and YouTube and more than two out of five have read or seen scientific and technological content on Instagram and Twitter.

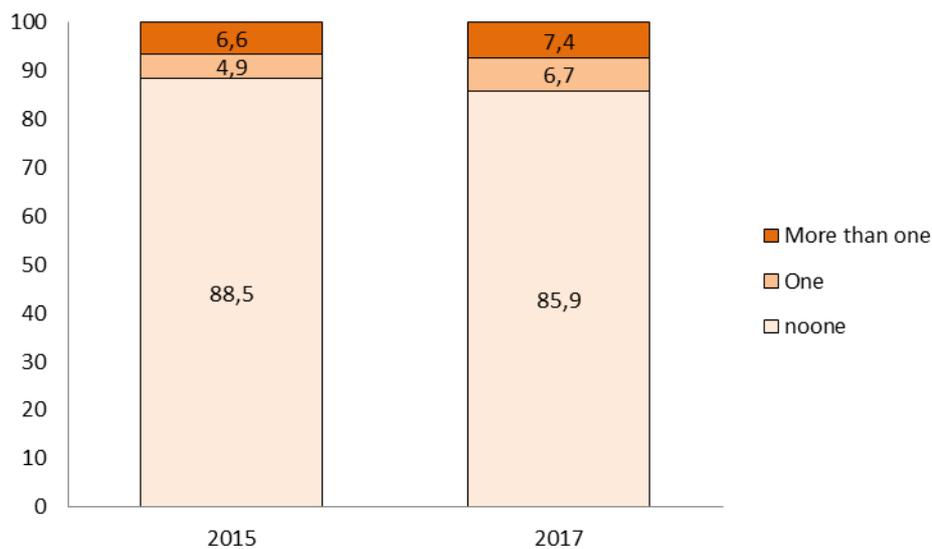
How often do people share scientific-technological content after reading or viewing it? The practice of sharing content is widespread among about a third of the users of Instagram, Twitter and YouTube, while among those who use Facebook more than half have published in their diary a post relating to a scientific

or technological subject after having read it or having viewed it in their notification page (table 2).

Compared to 2015, both the number of those who have read or seen science and technology content on the most popular social media and the number of those who have shared such content have grown. In both cases, the most consistent increases relate mainly to Instagram and Twitter, amounting to approximately 20%.

If reading and viewing content related to science and technology now involves a large proportion of the Italian population, also in 2017 there were few citizens who, in social networks, specifically followed a particular scientist or research institute; only 14% stated that they follow one or more than one (the relative figure was 11.5% in 2015).

Fig. 2 - Citizens who follow a particular scientist/research institute in social networks (%; n = 999)



Media and social media channels are not the only method available to non-experts to come into contact with science and technology content. Over the last year 42% of Italians visited a museum or a scientific exhibition at least once and 22% followed a public meeting or debate on science and technology (table 3).

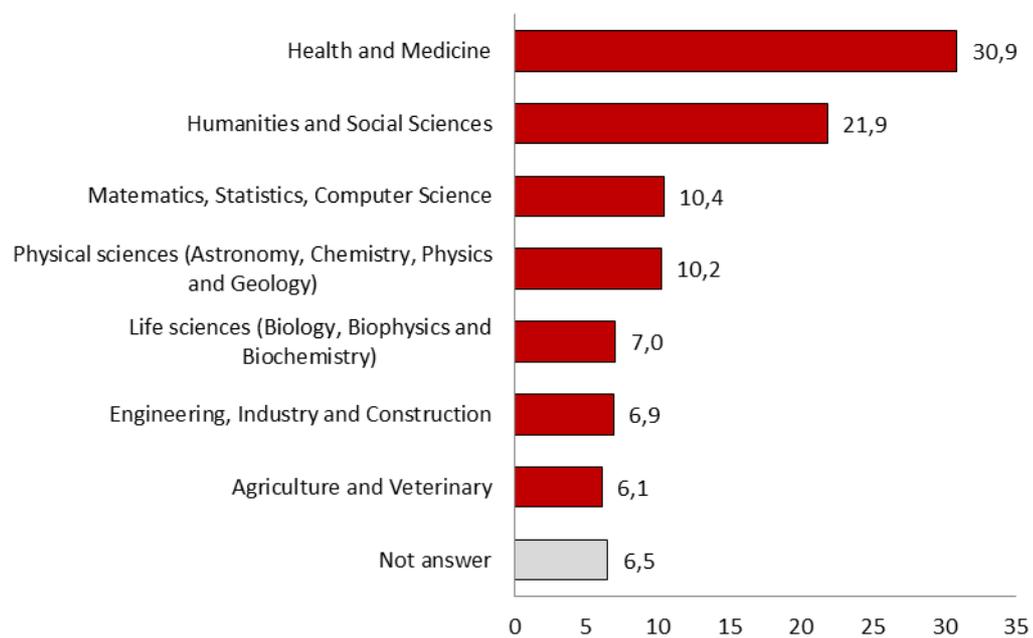
Following a decline recorded in 2011, both of these contact methods have seen a steady increase in terms of participation. The number of people who have attended a public meeting or debate on science and technology or who have visited a museum or a scientific exhibition in the last year has never been so high since the moment when Observa began recording this type of data.

Table 3 - Participation in scientific events and presentations (%; 2007: n = 988; 2009: n = 1020; 2011: n = 1001; 2013: n = 1005; 2015: n = 999; 2017: n = 997)

		More than once	Once	Never
Visit science museums or scientific exhibitions	2007	10.2	16.9	72.9
	2009	13.8	15.3	70.9
	2011	8.2	12.2	79.6
	2013	13.8	14.8	71.4
	2015	15.0	21.7	63.3
	2017	18.3	24.1	57.6
Participate in public meetings and debates on science and technology	2007	4.7	6.2	89.1
	2009	7.3	10.2	82.5
	2011	4.2	6.0	89.8
	2013	5.1	6.4	88.5
	2015	6.7	9.6	83.7
	2017	9.2	12.5	78.3

But what are the areas of research that Italians are most interested in and follow the most? The principal subjects are medicine and health, which attract the attention of 31% of Italians, while the humanities and social sciences, such as economics, sociology and psychology are followed by 22%, and in third place, ranking equally, we find mathematics, statistics, computer science and physical sciences (astronomy, chemistry, physics and geology). In the classification of the area of research followed most assiduously life sciences (biology, biophysics and biochemistry) are rather unexpectedly listed at a position close to that of the fields of industrial engineering, construction work, agricultural activities and the veterinary sector, which were indicated by 7% of respondents (fig 3).

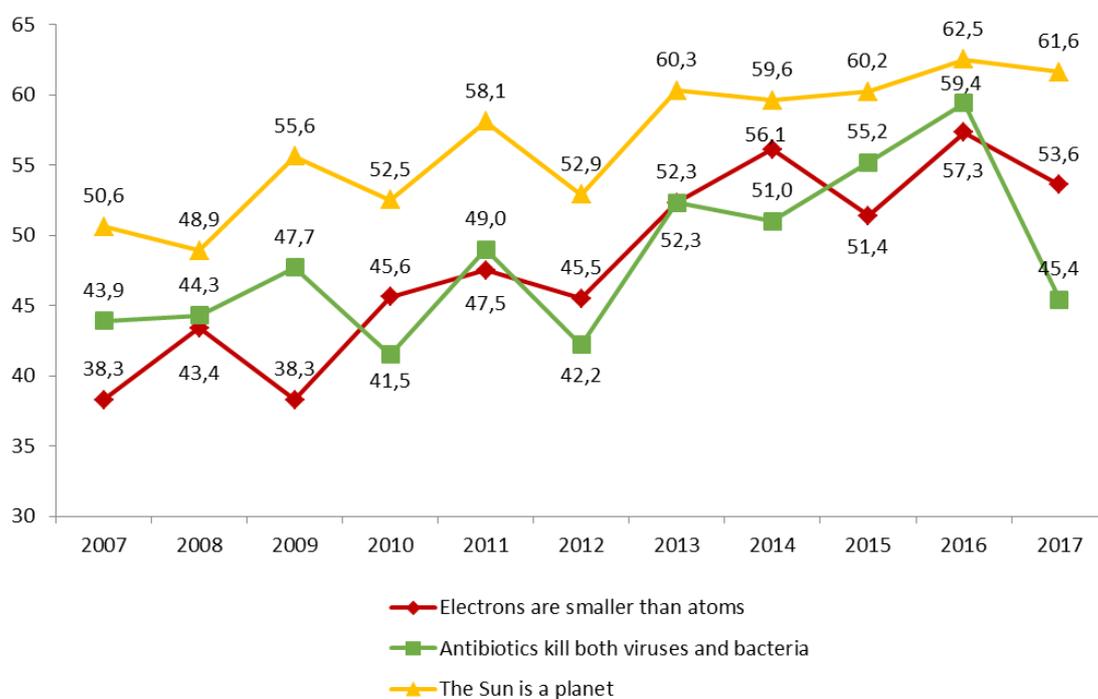
Fig. 3 - The area of research which citizens declare they follow with the greatest attention (%; 2017: n = 997)



Scientific literacy

As in the case of exposure to science through the media, the level of scientific knowledge is also one of the most frequently cited indicators in debates on public attitudes towards science. Since 2007, on an annual basis, the Science and Technology Observatory has been monitoring - also at the international level - the trend of the category referred to as 'scientific literacy' through three questions, which have become standardised.

Fig. 4 - The levels of competence of Italians in scientific fields: % of correct answers to some questions (2007: n = 988; 2008: n = 996; 2009: n = 1020; 2010: n = 985; 2011: n = 1001; 2012: n = 995; 2013: n = 1005; 2014: n = 1040; 2015 = 999; 2016: n = 1002; 2017: n = 997)



In 2016 the level of scientific literacy of citizens reached a peak that had never been attained in previous years, while this year, despite an increase in the level of exposure to science in the media, a lack of growth has been recorded; the percentage of citizens who do not know how to answer correctly any of the questions asked has returned to 17% and the percentage of those capable of correctly answering all three questions remains at 23%. The percentage of Italians who know that the Sun is not a planet remains practically stable and above 60%, however there has been a reduction in the number of individuals who know that

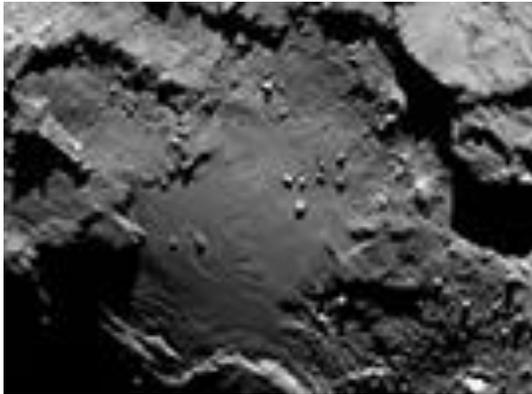
electrons are smaller than atoms (54%) and, in particular, in the number of those who correctly recognise the function of antibiotics; the latter percentage decreased by 14 points and after five years has returned to a level below 50% (fig. 3).

Although in studies on the relationship that exists between science and society scientific literacy has been a subject of discussion and debate, the indicators used in the research mainly focus solely on verbal comprehension, neglecting the role of the visual component, which is now a key element in the presentation and dissemination of scientific data and subjects of interest. Since 2014, the Observatory has been seeking to identify what is referred to as 'visual scientific literacy', presenting images to a part of the sample using the Computer-Assisted Web Interviewing (CAWI) method.

The images shown in 2014 were a) the first graphic representation of the DNA structure, presented by Watson and Crick in an article published in the journal 'nature' on 25 April 1953, b) one of the photographs taken on 16 July 1945 during the Trinity nuclear test, conducted within the framework of the Manhattan project, and c) the photograph of the Earth taken on Christmas Eve in 1968 during the Apollo 8 mission. In 2015 the Observatory once again presented the first graphic representation of the DNA structure but replaced the other two images with a representation of the structure of the hydrogen atom, as presented in the Nobel Lecture presented by Niels Bohr on 11 December 1922 when he was awarded the Nobel prize, and a representation of in-vitro fertilisation by means of an intracytoplasmic injection. In 2016 the latter image was presented once again, together with a photograph of the surface of the 67P/Churyumov-Gerasimenko comet taken during the Rosetta mission and three images of scientists: Marie Curie, Albert Einstein and Fabiola Gianotti. In 2017 the Observatory tested two different ways of asking questions to detect visual scientific literacy. As in previous years, it presented to the subjects interviewed images of the comet 67P/Churyumov-Gerasimenko, of the Periodic Table of Elements and of Marie Curie and Louis Pasteur, asking the participants to indicate who or what they might represent from among three options indicated, but it also tested the ability to recognise images of the first graphic representation of the DNA structure and of

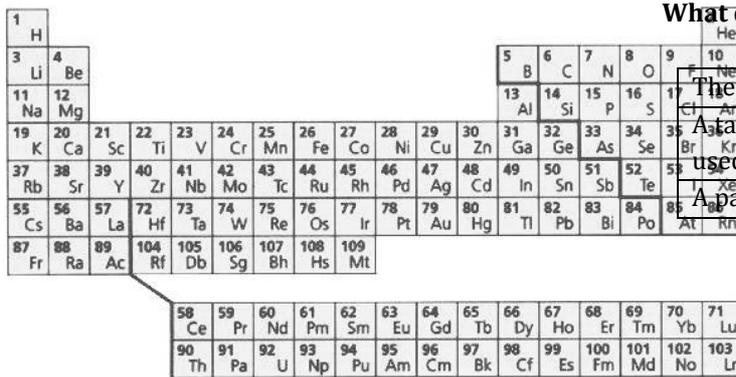
in-vitro fertilisation by means of an intracytoplasmic injection, presenting to the respondents three images to choose from rather than three items.

Table 4 - Familiarity with the various images presented



What can be seen in this photograph?
(%, 2017: n = 530)

The surface of the desert at night	7.9
The surface of the South Pole	9.1
The surface of a comet	83.0



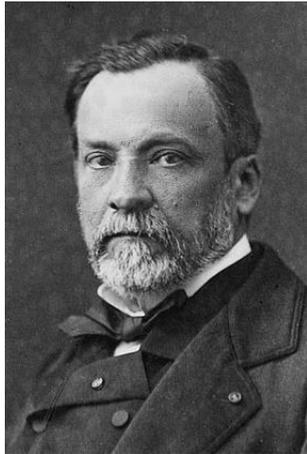
What does it represent? (% , 2017: n = 532)

The periodic table of the elements	82.6
A table of the various molecules used in pharmacies	14.6
A particular type of keyboard	2.8



Who is portrayed in this photograph?
(%, 2017: n = 532)

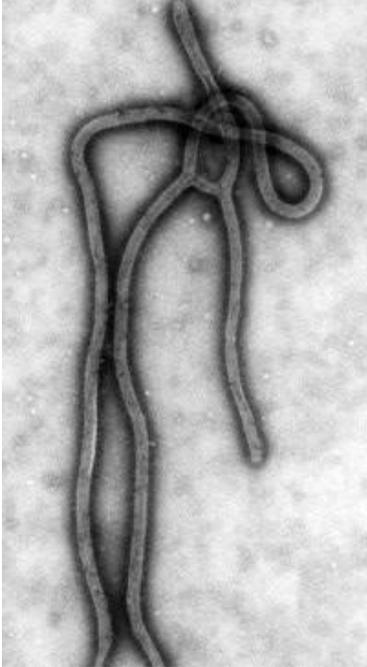
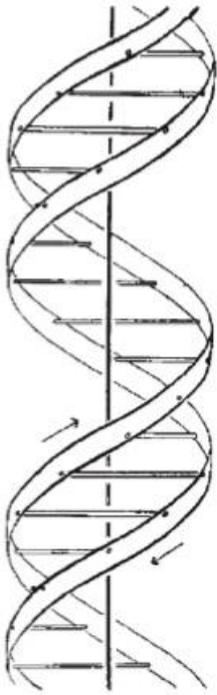
Margherita Hack	17.0
Rosalind Franklin	18.9
Marie Curie	64.1



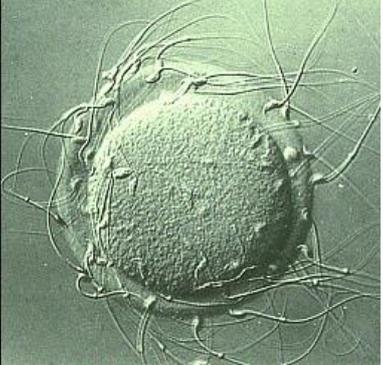
Who is portrayed in this photograph?
(%, 2017: n = 530)

Louis Pasteur	73.8
Robert Koch	18.9
Giulio Natta	7.3

Which of these three images represents the structure of DNA? (%, 2017: n = 524)

		
3.8	93.0	3.2

Which of these three images represents in-vitro fertilisation? (% , 2017: n = 529)

		
84.1	6.4	9.5

In 2014 the test results confirmed that the three images selected had actually become icons in the world of science, also among the Italians who were interviewed. Almost all of the participants recognised the photograph of the Earth seen from the Moon and the representation of the DNA structure, while over 80% knew that the image shown was one of those produced during the first nuclear test. In 2015 the percentage of people who recognised the image of the DNA structure decreased slightly but was still 90%, and the representation of in-vitro fertilisation may also be counted among the images that have become icons in the world of science. The representation which nowadays is perhaps the most common in the public sphere with respect to assisted fertilisation, stem-cell research and even cloning was recognised by seven out of ten respondents in 2015 and also in 2016. The image taken during the ESA mission is also very well known; more than 80% of the citizens to whom it was presented recognised the surface of a comet in 2016 and also in 2017. This year the same percentage also recognised the periodic table of the elements, even though some elements of the image had been concealed (table 4).

If in the twentieth century the scientific celebrity par excellence was undoubtedly Albert Einstein and in 2016 more than 90% of Italian respondents recognised him, the image of Louis Pasteur also seems to be well known. In 2017 more than seven out of ten interviewees do not confuse his face with that of Giulio Natta or with

that of his colleague and rival Robert Koch. However, less well known is the image of Marie Curie. The only woman among the four winners of more than one Nobel prize and the only scientist to have received it in two distinct areas of research was recognised by 65% of the respondents in both 2016 and 2017 (table 4).

With respect to scientific literacy, the level of visual scientific literacy appears to be a more stable variable in the population. Although the information was acquired in a different manner, also in 2017 more than 90% of Italians are able to recognise the image of the DNA structure and the ability to recognise the image of in-vitro fertilisation through intracytoplasmic injection reaches a level of 84%.

Orientations towards science and technology

Since its first investigations, the Science, Technology and Society Observatory has noted the existence of articulated and ambivalent opinions concerning the role of technoscience in society and its relationship with the sphere of values.

In 2017 more than seven Italians out of ten believed that the benefits of science are greater than any possible negative effects and that only science can tell us the truth about man and his place in nature, but almost the same percentage also believes that science and technology change our lifestyle too quickly and more than two out of five believe that contemporary science threatens such fundamental values as human life and the family dimension.

Table 5 - Opinions on science and technology (%; 2011: n = 1001; 2013: n = 1005; 2015; n = 999; 2017: n = 997)

	Strongly agree or Moderately agree				Moderately disagree or Strongly disagree				Neutral			
	2011	2013	2015	2017	2011	2013	2015	2017	2011	2013	2015	2017
The benefits of science are greater than the possible negative effects	67.6	70.4	74.1	75.7	30.3	27.3	24.8	20.6	2.1	2.3	1.1	3.7
Only science can tell us the truth about man and his place in nature	64.5	65.0	69.8	71.0	33.5	33.3	28.9	25.4	2.0	1.7	1.3	3.6
Science and technology change our lifestyle too quickly	73.6	80.5	81.4	70.2	25.5	18.9	18.3	27.3	0.9	0.6	0.3	2.5
Contemporary science threatens fundamental values such as human life and the family	34.9	36.0	40.1	42.3	62.3	63.3	57.5	52.8	2.8	0.7	2.4	4.9

With respect to previous years, there is an increasing agreement regarding three of the four statements presented to the respondents. There is a higher propensity towards demonstrating trust in science, but the opinion that science threatens fundamental values such as human life and the family is also more frequent, the idea that science and technology change our lifestyle too quickly has decreased.

Vaccines

In recent years, among the salient topics in the public debate relating to science and technology certain issues within the biomedical field have assumed importance. As mentioned above, medicine and health constitute the area of research which Italians are more interested in and tend to follow more. The Science and Technology Observatory has thus decided to dedicate an important part of the survey this year to opinions on the use of vaccines, homeopathy, living wills, medically-assisted fertilisation and self-care, all of which concern dilemmas linked to the autonomy and freedom of citizens within the sphere of biomedical options.

In 2015 more than a half of Italian citizens believed that only a limited number of vaccinations should be mandatory, leaving the individual to decide with respect to the others, and almost one Italian in five was against any type of vaccination. After the public debate occurring in recent months and measures that have been adopted by the Ministry of Health the number of people who believe that all vaccinations, including those against influenza, should be mandatory has grown by 24 percentage points to 47%, with this becoming the first option among the three indicated (fig. 5).

In May 2017, 8% of Italians remained opposed to any type of vaccination, while 44% continued to think that not all vaccinations should be mandatory.

The ideas referred to concerning the use of vaccines depend on opinions regarding vaccinations. Almost 90% of Italians believe that it is right to oblige children to be vaccinated so as not to endanger the health of others and four out of five are convinced that the benefits of vaccines are always higher than the potential risks. However, the percentages of those who believe that only the individual knows what is good for his or her health and should be left free to decide (48%) and those who believe that the spread of vaccines only serves to enrich those who produce them (40%) (table 6) should not be ignored.

Fig. 5 - Use of vaccines (%; 2015 = 999; 2016: n = 1002; 2017: n = 997)

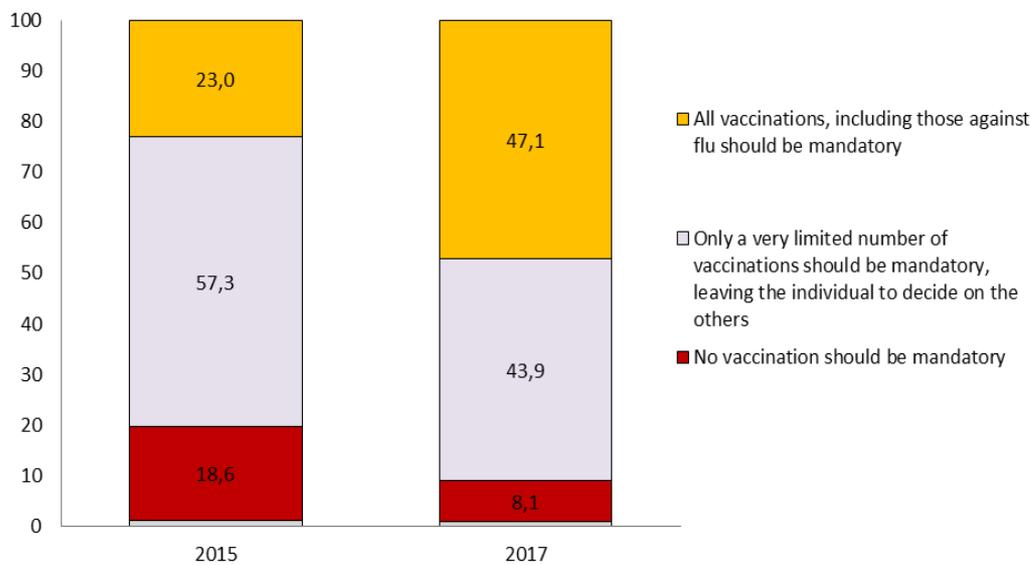
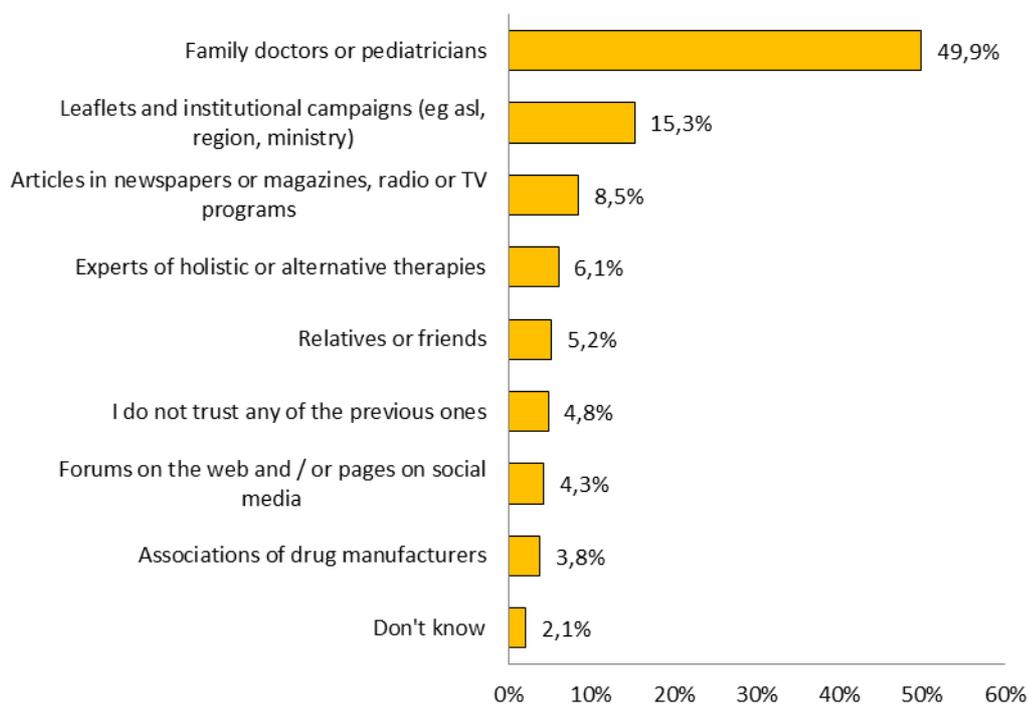


Table 6 - Opinions on vaccinations (%; 2017: n = 997)

	Strongly agree or Moderately agree	Moderately disagree or Strongly disagree	Neutral
The benefits of vaccines are always higher than the potential risks	80.2	14.3	5.5
The diffusion of vaccines only serves to enrich those who produce them	39.8	56.8	3.4
We must let the individual decide, because only he/she knows what is good for his/her health	48.0	49.2	2.8
It is right to make it obligatory to have children vaccinated so as not to endanger the health of others	86.6	11.2	2.2

But who do Italians trust when it is necessary to acquire accurate information on vaccines? General practitioners or paediatricians are the experts whom half of the sample would rely on. Among sources that are used leaflets and institutional information campaigns of the local health authorities, regions or ministries come second and articles in newspapers or magazines and radio or television programmes are recorded as the third most popular option. It is interesting to note that immediately following these particular sources the experts in holistic or alternative therapies are indicated, while less than 5% of the sample rely exclusively on web forums and/or social media pages (fig. 6).

Fig. 6 - Sources which citizens trust as providers of accurate information on vaccines (1st and 2nd choice; 2017: n = 997)



The credibility and quality of scientific information

In addition to issues relating to the biomedical field - and often in connection with the same - the question of the credibility and quality of scientific information has recently emerged in the public debate, and in a more forceful manner with respect to the past. This year the Science, Technology and Society Observatory thus decided to dedicate the last part of the survey to this topic, asking citizens to express their opinion concerning the credibility of news made available through the Internet and/or social networks, to state how they evaluate the reliability of a news item relating to science and technology, medicine or health and to say how often they believe false news is disseminated and who is mainly responsible for it.

The Science, Technology and Society Observatory has chosen not to simply ask people to express their opinion concerning the degree of credibility of news disseminated via Internet and/or through social networks relating to science or technology and medicine or health but to include these two themes in a survey package along with three others: national and international politics, economics and finance, sport and entertainment. Surprisingly, it is news relating to these subjects and disseminated in Internet and/or through the social networks which is considered the most credible, while information relating to science or technology and medicine or health assumes a central position after items of news on the economy and politics (table 11).

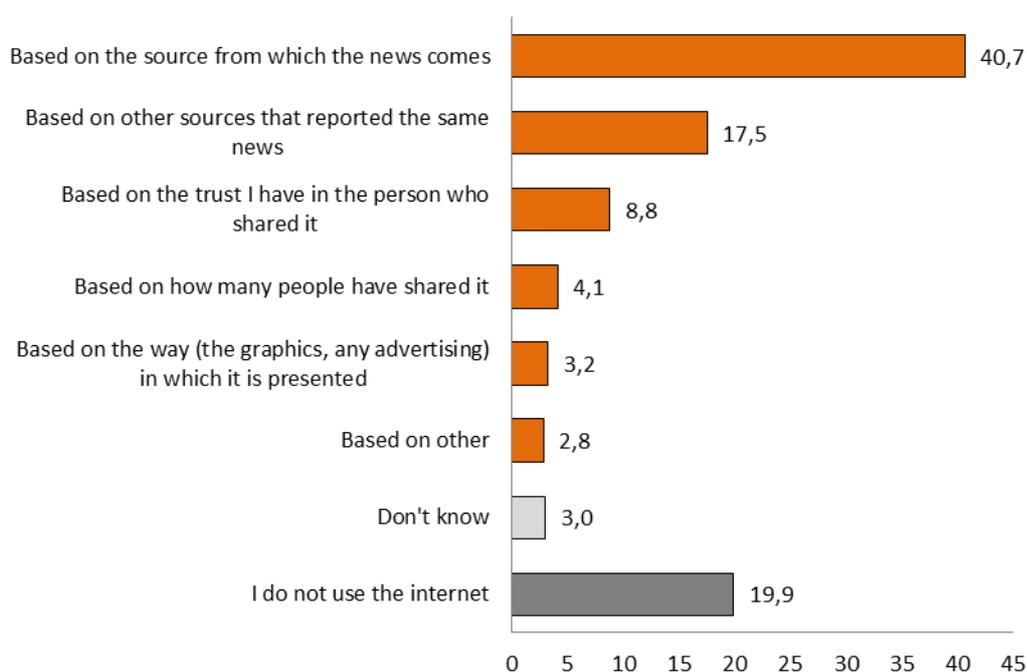
A quarter of Italians believe that news disseminated in Internet and/or through social networks on science or technology and medicine or health is not highly credible or not at all credible.

But how do citizens assess the reliability of this news? More than two individuals out of five say they pay attention to the source from which the news originates, while almost two out of ten look at other sources that have reported the same news (Figure 9).

Table 7 - How credible is the news disseminated in Internet and/or through social networks according to citizens (% , 2017: n = 997)

	Extremely	Moderately	Slightly	Not at all	Neutral
National and international politics	5.5	32.8	34.5	12.4	14.8
Economics and finance	6.0	33.3	35.5	9.4	15.8
Sport and entertainment	13.9	45.8	17.5	6.6	16.1
Science and Technology	12.4	46.7	19.6	6.3	15.0
Medicine and health	9.7	44.9	26.5	4.5	14.4

Fig. 7 - What method of evaluation is adopted with respect to the reliability of a news item relating to science and technology news, medicine or health which is disseminated in Internet and/or through social networks (% , 2017: n = 997)



While for 75% of Italians the dissemination of false news In Internet and/or through social networks is in general very or fairly frequent, news concerning science and technology or medicine and health are not exempt from such mechanisms; in the opinion of over one half of Italians hoaxes and fake news circulate concerning these subjects (table 12). But whose fault is it?

According to the citizens interviewed, in the first place journalists who spread the news (31%) and, secondly, people who share information (25%) are among the main subjects responsible for disseminating false news relating to science and technology, medicine or health. For almost one in five respondents on the other

hand it is the social networks themselves and their way of operating that feeds these types of mechanism. Those who believe the spread of false news is mainly attributable to physicians and researchers are fewer than 10% (fig. 10).

However, Italians believe that scientists are not exempt from engaging in misconduct. In fact, 80% believe that a conflict of interests is widespread among them; more than two thirds of citizens also think that plagiarism or copying and the falsification of data are widespread in research (table 13).

Table 8 - How frequent is the diffusion of false news in Internet and/or through social media networks (% , 2017: n = 997)

	Extremely	Moderately	Slightly	Not at all	Neutral
In general terms	40.0	35.3	6.2	2.2	16.3
With respect to topics related to science and technology	18.3	37.0	24.2	2.2	18.3
With respect to topics related to medicine and health	23.4	39.9	16.7	2.3	17.7

Fig. 8 - Who is primarily responsible for the dissemination of false news on subjects relating to science and technology, medicine or health in the opinion of interviewed citizens (% , 2017: n = 997)

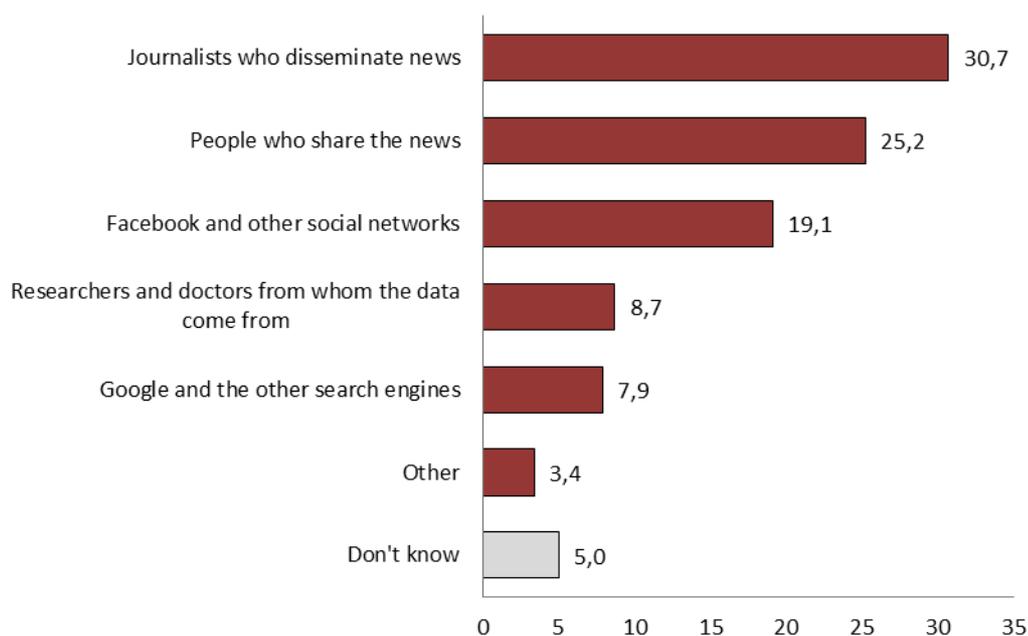


Table 9 - How common is the presence in research of certain types of conduct in the opinion of interviewed citizens (% , 2017: n = 997)

	Extremely	Moderately	Slightly	Not at all	Neutral
Falsification of data	18.8	48.3	18.7	4.7	9.5
Plagiarism or copying	24.3	45.0	14.8	4.7	11.1
Conflict of interests	37.8	41.9	7.5	4.0	8.8

ITALIANS AND SCIENTISTS IN THE PUBLIC SPACE OF PARTICIPATION AND COMMUNICATION

*Giuseppe Pellegrini*³

For the past 15 years, Observa has been studying Italian opinions and attitudes towards science and technology. Thanks to this activity it is possible to recognize some relevant trends that emerge from the data collected with the Science Technology and Society Observatory to grasp the main orientations of the public. Some of these trends have stabilized over time and allow us to understand the priorities to be addressed by citizens.

Newspapers' articles and the Web are the most trusted source of information, particularly for frequent users, and in recent years television lost its importance among young people. There is also an interesting trend regarding social media: the number of those who have shared contents have grown to 20%, especially for Instagram and Twitter.

We noticed an increasing public participation at meetings and debates on science and technology and the number of museum and scientific exhibition participants grew up. These are usually most informed and most concerned citizens who have participated in the numerous scientific initiatives that have increased considerably in Italy in recent years.

The level of confidence in science and scientists remains constantly high and citizens prefer to obtain scientific information directly from the voice of scientists. The scientists are also considered those who should have a greater influence on research decisions and citizens should also be involved in decision-making on research.

The value of science as a means to know and study phenomena remains undisputed even if Italians believe that the process of scientific development is

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very rapid, even if this perception has been somewhat attenuated in the last two years.

The major interests of the Italians are turned to medicine. In this field, controversies have occurred as in the case of vaccines. Generally speaking, the intention of autonomously deciding on some medical practices has grown in Italians. In the case of vaccines we found that there is a group of Italians strongly opposed to their use (8%) while almost one in two believes that individuals are able to decide for themselves because they know what is right for their health. If on the one hand therefore, as we have seen above, there is a significant trust in scientific institutions, on the other, there is a growing desire for some health issues to be autonomous in any case. This type of situation often creates “short-circuits” in communication and values that flow into the public scene.

Citizens are rather critical of the sources of information and believe that they are not generally credible. A quarter of Italians argues that the science and technology news proposed on the Internet are not reliable and they believe that we must check the source to check the level of credibility.

The topic of the reliability of scientific news and of the credibility of the sources has become increasingly relevant and concerns the public. The uncertainty that this entails becomes therefore one of the fields of greatest interest for research and for the study of public communication of science and technology