QUALITY ISSUES

An umbrella term for the problem of assessing quality in science, as it is often used in the context of peer review, publication standards, and the credibility of scientific findings. This includes various factors such as the reliability of data, the validity of research methods, and the adherence to ethical standards.

PUBLICATION STANDARDS

Detailed guidelines and criteria that scientific journals use to evaluate and accept manuscripts for publication. These standards vary between journals and fields, but typically include elements like originality, significance, methodological rigor, and adherence to ethical guidelines.

REPUTATION

The perceived credibility or trustworthiness of a researcher, research team, or publication. A high reputation is often associated with a track record of rigorous, impactful research and adherence to ethical standards.

ETHICAL STANDARDS

Mandatory guidelines that researchers must follow to ensure the ethical conduct of research. These standards vary widely across fields but generally include principles such as obtaining informed consent, protecting confidentiality, and ensuring the safety and well-being of research participants.

CREDIBILITY

The degree to which research findings can be trusted and relied upon. Credibility is influenced by factors such as the quality of methodologies used, the transparency of research processes, and the impartiality of the evaluation of findings.

ACCURACY

The level of correctness or correctness of a statement, fact, or claim, as determined by comparison with objective reality. Accuracy can be assessed in various ways, depending on the context, including through observational data, empirical testing, or peer review.

ANALYSIS

A systematic examination and evaluation of data, information, or evidence to discover reasoning or underlying meanings. Analysis can involve various methods, such as statistical analysis, content analysis, or thematic analysis, to interpret and synthesize information.

DATA

Information or facts, especially those that are collected through observation, measurement, or experimentation. Data can be qualitative or quantitative and can be used to support or challenge hypotheses and theories.

The Turing Files

Alan Turing was a math wizard who laid the groundwork for the computer and helped break the German Enigma code during World War II. At the Turing Digital Archive, you’ll find a trove of mostly unpublished papers and personal photographs squirreled away by King’s College, Cambridge, where Turing was an undergraduate and fellow. Along with math and computers, Turing’s many other interests are on display, ranging from morphogenesis—how a developing organism takes shape—to long-distance running (left, Turing on his way to a track meet).

One of Turing’s most famous contributions was a procedure to determine if a computer was intelligent. To pass the Turing Test, a machine would have to provide convincingly human answers to a series of questions. This site from the University of California, San Diego, includes Turing’s original 1950 paper and recent critiques and endorsements. No computer has met the standard, but you can chat with some of the programs that have come closest, such as Brian, set up to respond like an 18-year-old college student.

RESOURCES

Out-of-This-World Geology

Smothering dust storms on Mars, pristine impact craters on Venus, possible liquid water on Jupiter’s moon Europa—Earth isn’t the only place that piques the interest of geologists. Dig into the geology of the planets, moons, and asteroids in our neighborhood at the new home page for the U.S. Geological Survey’s (USGS’s) Astrogeology Research Program.

Although the site’s focus is USGS’s own research, the offerings include more general information, from brief overviews of NASA missions to maps and reports for specific planets and moons. Stop by the Venus section, for instance, to scan a database that provides the name, size, location, and type for the planet’s nearly 1000 known craters. You can peruse a gazetteer of accepted names for surface features or create your own map of a particular venusian landscape. Links lead to NASA or USGS images and to other informative sites. You can also pore over results of missions such as Voyager and Mars Pathfinder, which snapped this austere panorama of the Red Planet in 1997 (left).

Viral Load

Looking to catch a virus—or at least come down with its genome sequence? Try the new Viral Genomes home page from the National Center for Biotechnology Information, which offers nearly 1200 “reference sequences,” complete and annotated genomes for more than 900 plant, animal, bacterial, and human viruses. They run the gamut from familiar killers such as HIV and the yellow fever virus to obscure pathogens such as the virus that causes Aleutian mink disease.

Send site suggestions to netwatch@aaas.org. Archive: www.sciencemag.org/netwatch