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**COVER:** Large eruptions on the sun, like this one observed from space in 1973, come during periods of high solar activity, about every 11 years. A new analysis shows that the sun has not always had the 11-year cycle. For a 70-year period from A.D. 1645 to 1715 virtually no solar activity was observed. This overthrows assumptions about the constancy of the sun. The consequences for solar and terrestrial physics may be profound. See p. 154. (Photo: NASA/Skylab 3)

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# LETTERS

## Remembering Galois

What a relief to finally read a publication that devotes a column to a subject that has not nearly received its just due as far as publicity is concerned—namely the theory of groups (re: "Off The Beat: Math/Physics Discord" by Dietrick E. Thomsen, SN: 2/14/76, p. 110). I think, however, that no article on group theory is complete without at least casual reference to the brilliant French youth who put it all together—Evariste Galois. Many scientists and mathematicians who are intimately familiar with original mathematical and physical thought consider Galois to be perhaps the greatest genius who ever lived (yes, including Newton and Einstein). Unfortunately, Galois was killed in a duel with a political enemy at age 20 thus cutting short a life which had already brought forth ideas destined to revolutionize algebra and all disciplines served by algebra. The now famous Galois theory of groups spelt the end of classical algebra, and indeed unified and reformed both the algebra and the mathematical method in general. Brilliant original works in physics and chemistry have in many cases been shown to be merely special examples or special groups within a more general group situation. One such work is none other than the theory of special relativity. There are countless others.

A leading 20th-century mathematician, Hermann Weyl, has said: "If judged by the novelty and profundity of ideas it [Galois's group theory manuscript] contains, it is perhaps the most substantial piece of writing in the whole history of mankind."

*Thomas M. Beshere Jr.  
Charleston, S.C.*

## Congratulating Douglas

We wish to commend you on John Douglas's comment section on "Reasoning about Reactors" and on the two articles in his series "The Great Nuclear Power Debate." Decisions relating to nuclear power must be based on sound reason, not on fear caused by unsupportable exaggerations designed to mislead the general public. There is a large need for more such articles which describe the actual situation and reveal the true nature of such exaggerations.

*J. D. Schaffer  
Chairman  
Tri-City Technical Council  
Richland, Wash.*

## Heisenberg and Einstein

I was saddened to read of Werner Heisenberg's passing (SN: 2/7/76, p. 86), but I was fascinated with your account of his "intellectual struggle" with Einstein.

We have lionized Einstein for so long that it is refreshing to find that he has an Achilles heel after all. Where did you get the interesting story quoting Einstein as remonstrating with Heisenberg and using the metaphor of the "thin ice"? This is very revealing. It is with considerable glee that I can visualize Einstein and all his apologists plunging through the "thin ice," even now.

The very argument that attempts to distinguish between "what we know about nature" and "what nature really does," smacks of medieval debates over how many angels can stand on the head of a pin. The fact that certain relationships can be labeled as unknowable is tantamount to establishing that those said relationships are unreal and without effect in nature. I think I can say that any effect that is observable, can be described in terms of things that are knowable.

*Carl M. King  
Sarasota, Fla.*

## A belated Valentine

In this belated reaction to your "1975 Review" issue I am trying to work off the frustration of not having been favored with one of your 2,794 questionnaires last year. I would have wanted to say this of your admirable publication, a comment which did not show up in the examples printed.

Of all the nice things that can be said of SCIENCE NEWS, I think the nicest of all is that by its varied, balanced, and easily digested format it provides, unselfconsciously, a true picture of what science really is: namely, a lot of little pushes on the frontier of knowledge by a great many individuals whose separate small increments of gain add together to form a body of enlightenment.

The beauty of SCIENCE NEWS among scientific publications is that it constantly reminds one of the diversity of effort required to advance knowledge. On occasion, I have noted in one issue, two or three reports, unconnected editorially, which could be joined in the reader's mind as if he himself had put together something new.

Perhaps this is why we love you so: You let us think, too.

*Stuart Grover  
Lincoln, Mass.*

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