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Lights Off!

Darkness, shadow, and gloom instill fear in our hearts, yet at the same time profoundly intrigue every one of us. Let's admit it: most fans of the Star Wars saga are, deep down, more fascinated by the shadowy Lord Vader, the very personification of the Dark Side, than by the good (and thus somewhat bland) Luke Skywalker. Following a similar line of thought, we decided to devote this issue of ACADEMIA to darkness in all its aspects.

*Since space research is one of Poland's "scientific specialties," we first want to highlight two "dark" topics being researched by Polish astrophysicists. On p. 9 we write about the still-mysterious "dark energy" and "dark matter." Black holes, on the other hand, might seem to be a topic much less shrouded in mystery - people have grown so accustomed to them that the term "black hole" has even become part of the colloquial language. But have black holes really given up all their secrets? Read more in the article **Black Holes on the Swing** on page 16.*

*Next, coming back down to Earth, we note how darkness and light play a vital role for living beings. We describe how plants harness varying light and what information they derive from darkness in the article **Light After Darkness** on p. 33. And as concerns animals that thrive in the dark, we take a look at what must be the most characteristic "creatures of the night," i.e. bats. Polish Academy of Sciences experts studying these mammals share their observations in the article **Bats Come Home to Roost** on p. 4.*

*Darkness and gloom are also an important line of study in the humanities. We will highlight the work of researchers studying two of the more somber aspects of human society: **poverty and corruption** (pages 26 and 38). Yet here, too, it turns out that darkness cannot exist without light: the "gray economy" phenomenon that is usually viewed in a negative context can, it seems, have positive aspects as well (p. 28).*

*Indeed, since one can't look at the world solely in terms of dark hues, we have also taken care to include a few brighter topics: **liquid crystals** studied with polarized light (p. 20), the luminance of **human intelligence** (p. 12), and the bright future prospects for the **combined production of power and heat**, or "cogeneration" (p. 30).*

Finally, this issue also features a new category of article: profiles of outstanding Polish researchers. The first such individual we will profile is Prof. Rudolf Weigl (p. 46), sometimes called a "Polish Schindler." Not only did he give mankind a vaccine against typhus, he also saved many human lives during the darkest years of WWII.

ACADEMIA staff



It is with deep regret that we commemorate Professor Tadeusz Rychter, a member of *Academia's* Scientific Council, who passed away on October 1 in Warsaw. We are very sad to lose an outstanding scientist whose knowledge and kind support contributed greatly to our publication. The *Academia* staff and Scientific Council would like to express our deepest sympathies to the Professor's family and loved ones.