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**On the Cover:** The cover shows a jigsaw puzzle of Vincent van Gogh's Irises, recognizable but incomplete. This image is meant as an analogy of plant systems biology. To see the big picture, we must understand how all the component parts (gene regulation, proteins, metabolites, ions, changing environmental conditions, etc.) fit together. *Updates* and research articles in this issue describe progress in applying systems biology approaches to diverse topics of plant biology. Cover photo is by Paul Herzmark and Sheila McCormick (University of California, Berkeley).

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