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## Scenario planning: Pierre Wack's hidden messages



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### ABSTRACT

*Purpose:* The purpose of this paper is to distill and interpret Pierre Wack's original views on scenario planning based on his personal papers and documents now accessible at the Pierre Wack Memorial Library at the University of Oxford.

*Design/methodology/approach:* This article is based on a practical and historical review of several key documents at the Pierre Wack Memorial Library. The theoretical scope of the paper is to view current scenario planning practices in light of the foundational ideas of its originator.

*Findings:* Pierre's personal materials contain several important practical implications for using scenarios. These are summarized after analyzing, synthesizing and reviewing his ideas.

*Research limitations/implications:* Because the article is based on Wack's personal views about scenario planning, it is necessarily limited. However, the goal is to revisit the original intent of scenario planning by reviewing the personal documents of one of its originators.

*Practical implications:* The main goal of the paper is to distill practical advice from Wack's documents. These are: (a) scenarios must be part of a larger strategy system and the elements are clarified, (b) scenarios should not be positioned or sold as the product/outcome of scenario planning, (c) the two-day workshop approach to scenario planning is not adequate, and (d) scenario planning should not primarily be practiced as group process. These issues are discussed and further explanations and solutions are examined.

*Social implications:* This article is intended to provoke challenging questions about the nature of current scenario planning practices. We hope this work might change the common approach to scenario planning and offer guidance for avoiding disappointment in scenario planning because it is increasingly practiced inadequately.

*Originality/value:* This article features some of Wack's original views about what is required for successful scenario planning. Further, this article uses his own words and is based on his personal documents, videos, presentation transcriptions and personal writings that have not before been in the public domain. This article will be of value to any executive, manager or consultant considering scenario planning, who wants to learn how it was originally intended to be practiced, how to get the most out of it, and what to avoid.

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## 1. Introduction

In May of 2014, the Pierre Wack Memorial Library was officially opened at the University of Oxford under a new partnership between the recently formed Green Templeton College and Said Business School. Said Business School has housed the Pierre Wack Memorial Library which is managed by the Oxford Bodleian Libraries. The opening was timed with

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the third gathering of the Oxford Futures Forum, which had as its theme, the intersection of scenario planning and design thinking. The materials at the Pierre Wack Memorial Library make it clear that he was a master designer himself, with perhaps his greatest contribution being the design of an “organizational nervous system” (Wack, 1982 p.13; Wack, 1985a, 1985b), which is the focus of this article.

Wack is thought of as a founder of what many know as scenario planning. His ideas were based on the work of futurist Herman Kahn, adapted for the corporate world. Wack’s work with Ted Newland, Napier Collyns, Henk Alkema and Michael Jefferson at Royal Dutch Shell in the 1970s are still the most often referenced cases of scenario planning success. It is well known that Wack spent his final year, 1982, with Shell traveling the world gathering information about planning practices. At the request of Arie de Geus, he was working to summarize what he had learned over his 20 years at Shell. “Pierre returned with a single cryptic diagram labeled the gentle art of re-perceiving” (Kleiner, 2003; p. 4). The diagram was later re-titled “Generating Management Options” (Wack, 1993, 1995) and made an appearance in his classic Harvard Business Review article “Shooting the Rapids” (1985a).

On further consideration, the diagram may be the key to understanding what was so unique about the early scenario methods and what has been lost in today’s varied approaches to it. Closer examination of Wack’s documents reveals hidden messages that may explain why few organizations other than Shell are able to boast about their scenario work.

When Wack returned from his investigative travels, he made a series of presentations throughout Shell’s operating divisions based on his accumulated knowledge and expertise. Transcriptions of Wack’s final presentations, along with other unpublished documents from his work, have been preserved in the Pierre Wack Memorial Library at the University of Oxford.<sup>1</sup> These resources make it possible to gain insights into Wack’s thinking and his reflections on organizational planning. Other than the synthesized conceptualization in the diagram and recordings of his presentations, Wack did not write a lot and so the primary materials at the heart of this article are transcriptions of presentations he made, (Wack, 1993) videos of his scenario talks, his personal documents and hand written materials as well as drafts of the original article “The Gentle Art of Re-Perceiving”. For the careful observer, the materials he left behind hold many clues that can be stitched together to provide a new perspective on why he and the teams he worked with were so successful seeing the future. Such a review results in significant learning for how we work with scenarios in organizations.

## 2. Objectives of the article

The purpose of this article is to summarize Wack’s approach to scenario planning based on his original ideas and documentation that are preserved in the Pierre Wack Memorial Library. In particular, there are documents in which he describes his self-titled “organizational nervous system” (Wack, 1982; p. 13) of which scenarios are only a part. The overall structure of this article will present some foundational concepts that were important to Wack and describe them using his own words. Once these foundational concepts are presented, the article focuses on a diagram that synthesizes Wack’s thinking about corporate scenarios and strategy. This is the central focus of the article, with sections that describe and explain each element of the diagram. We conclude by attempting to distill some practical implications in light of revisiting Wack’s personal papers and ideas that have not yet made their way into the scenario literature.

Investigators who visit the Library are met with thousands of documents revealing the roots of scenario planning. These documents are unpublished and unavailable for wider consumption. They raise questions about the state of scenario planning practice today and how it has changed. They also make it possible to see how far modern scenario planning practices have evolved or strayed. Returning to the roots of the practice allows the student of scenario planning to cultivate a “gentle art of re-perceiving.” Thus, an additional goal of this article is to make what we judged to be the most compelling documents in the Library available to readers, although our own interpretation will have to suffice.

Before turning to Wack’s diagram and using materials at the Memorial Library to interpret and explain it, two consistent themes throughout Wack’s work need to be summarized. Based on his repeated emphasis, understanding the predetermined elements and a clear definition of scenarios are required.

## 3. The predetermined elements

The concept of “predetermined elements” is a primary theme that runs through everything Wack wrote. Predetermined elements are the results of events that have already occurred and can be reasonably predicted. His famous story of the Ganges (how heavy rainfall at the upper Ganges river basin would inevitably result in flooding at Rishikesh) demonstrates the point. Additional materials at the Library emphasize this point again and again, sometimes using the Nile river as the example. Wack was clear: identifying the predetermined elements was the activity that uncovered the true uncertainties, and this is where the scenarios become useful and engaging. “The more uncertain the world is the more attention the planners must bring to identifying the predetermined elements. And it is a painstaking exercise that no planner likes. It is far less interesting than dealing with the more imaginative parts, but unless it is well-done, the whole set of scenarios is weak”

<sup>1</sup> Napier Collyns worked diligently in cooperation with Eve Wack to preserve Pierre’s materials. The documents were originally catalogued and held at the Global Business Network offices in the Hague. Early examinations of the materials heavily informed Cynthia Selin’s chapter titled “Professional Dreamers” (2007). Later, Napier presented the documents to Templeton College on the recommendation of Kees van der Heijden at the University of Oxford, where they have become part of the Oxford Futures Library.

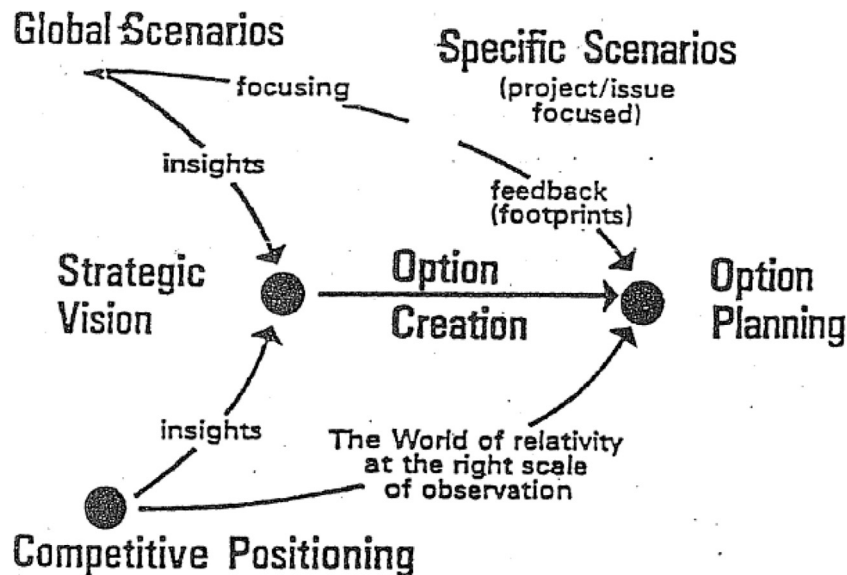


Fig. 1. Generating Management Options (Wack, 1984 p. 93).<sup>2</sup>

(Wack, 1982a; p. 13). While it is not clear if every scenario effort will include predetermined elements or not, Wack placed considerable emphasis on attempting to identify them (for deeper discussion on this topic, see Burt 2006). It seems that Wack felt the predetermined elements were an important place to start and a way to identify items that were really uncertain—a way of categorizing major variables and events in dynamic systems.

#### 4. Clarity on scenarios

The second consistent theme throughout Wack's materials is precisely what constitutes a scenario. The terms "scenarios" and "scenario planning" mean very different things to different people. The terms are poorly used and today almost anything can be considered a scenario. Again, Wack was clear: "Scenarios are not sensitivity analysis" (Wack, 1982a; p. 4). Manipulating a single variable (oil price, sales, etc . . . ) up and down is not scenario planning. In the real world you cannot move one dimension alone. At least one other dimension (and usually many more) is always affected and must be considered inside each scenario (Wack, 1982). Scenarios must therefore do more than display one environmental dimension in isolation. Scenarios must capture the dynamics that integrate to create a unique future world.

To build on this point, scenarios must also reflect different sets of assumptions (Wack, 1982b). This is precisely how scenarios challenge mental models. When the future is shown in three or four different ways, with different sets of assumptions, they will challenge how decision makers see the world. In order to accomplish this, "each scenario must lay out how and why it is possible" (Wack, 1982a; p. 5). Finally, effective scenario planning is not a baseline, with high and low forecasts built around it. Because scenarios must reflect varied assumptions and explain how and why they evolve, by definition, the best case, worst case, status quo approach will not do (Schwartz, 1996).

In these ways, scenarios are far more than stories. They are complex perceptual world frameworks of different possible futures based on varied assumptions that are relevant to decision-makers. These descriptions make it clear just how different Wack's interpretation of the word "scenario" was from common use today.

#### 5. Planning as a nervous system

From a design point of view, Wack showed that scenarios are only one piece of the puzzle. "If you are just doing scenarios, you are missing the point" (Wack, 1982a; p. 6). He described what he called an "organizational nervous system" (Wack, 1982; p. 13), that consisted of (a) global and specific scenarios, (b) competitive analysis, (c) developing strategic vision and (d) option planning. These elements – working together – allowed for the development of insight and foresight and are the core focus of this article. They come together in Wack's cryptic diagram (see Fig. 1). It is well known that Wack was not pleased

<sup>2</sup> This version of the diagram appears in Wack's manuscript "The gentle art of re-perceiving", which was never officially published in its original form. The article was split into two, and published in the Harvard Business Review as the now famous articles frequently referenced (1985a; 1985b). The original document is kept at the Pierre Wack Memorial Library and was circulated as required reading in the Global Business Network's scenario training courses. It should also be noted that there are two original hand drawings of this diagram at the Library that show the progression of Wack's thought that eventually arrived at the diagram in Fig. 1, Wack (not dated) versions 1 and 2, included in Appendix A (see Supplementary information).

with the final version of his paper that was published in *Harvard Business Review* (Wilkinson & Kupers, 2013, 2014; Wilkinson & Kupers, 2014). Wack and his colleagues, including Napier Collins, circulated his original draft among those who wanted to gain a sense of his unedited views on scenario planning. Thus, the exploration of Wack's hidden messages continues with a deeper analysis of his preferred version of the diagram.

Previous works have covered an adapted version of Wack's diagram (Schoemaker & van der Heijden, 1993; Van der Heijden, 2005a, 2005b), but the Library resources provide previously unpublished descriptions of the diagram components in Wack's own words. Further, Schoemaker & van der Heijden (1993) specifically dealt with application at Shell, while Wack's documents speak more broadly. The documents at the Library shed light on the nature of his diagram, adding a unique contribution to our understanding of scenario planning.

## 6. Global and focused scenarios

Wack advocated for a multi-phased approach to producing scenarios. His famous cherry tree metaphor captures it nicely – you find the blossoms on the smaller branches. By this he meant that global scenarios are the trunk, and focused scenarios are the branches, on which the blossoms form – the insights. Another metaphor can be found in his materials at Oxford – that of a camera lens. Scenarios gain power when focused. But to begin with a tight focus means you lose the context and miss key variables. He learned that a first set of global, macro scenarios was required before it was possible to move onto more focused micro scenarios that really captured the uncertainties around a more specific issue. These micro scenarios also enabled deeper engagement of managers' mental models. "You cannot do focused scenarios until you have done global scenarios. Otherwise, I would bet you that the manager will have a too low-level view of the uncertainties. And you will go back into sensitivity analysis" (Wack, 1982; p. 16).

The first set of scenarios became known as "first generation" or "learning scenarios" because they provided and framed contextual information. A second round of more focused "second generation" or "decision scenarios" were tailored to the managers' mental models and lived inside the wider set of learning scenarios. Wack sometimes called them mini-scenarios and indicated they could be produced somewhat quickly: "You will be surprised at the effectiveness of scenarios if you apply them to one of your real concerns . . . It is much easier to do mini-scenarios, first in terms of time, you will see that the cost-benefit relationship is much more favorable than the global scenarios . . . you identify the critical variables and you look at what are the forces behind these" (Wack, 1982a; p. 14).

It may be important to note that there are some situations in which multiple tiers of scenarios may not be necessary. Wack's experience was in global corporations and their requirements would be obviously different from, for example, a small business or start-up company.

## 7. Increased scope for competitive positioning

A critical input to any nervous system is analysis of competitive positioning, which Wack (1982b) repeatedly described as pure common sense or common sensical. He explained that competitive positioning provides insight into the decision makers' world of relativity, which helps create broader options for thinking. "Suppose two powders, a black powder, coal, and a white powder, flour. And suppose I mix them well at our scale of observation it is a grey powder. But suppose little insects the size of the grain of flour, from their scale of observation they would see black rocks and white rocks. Unless you go at the scale where you can see black rocks and white rocks competitive positioning is meaningless" (Wack 1982; p. 18). Insight can only be achieved if generalities and vagueness are avoided and an appropriate scale of observation is used.

To be effective, scenario planners must dedicate time to thinking about and differentiating entities within an industry, the unique barriers that may act as competitive protection for the organization, and the relevant competitors that may pose threats. These considerations clarify the landscape of decision makers' minds. Again, Wack used a metaphor—this time of mountain climbing. Experienced guides will bring climbers to the summit quickly and efficiently because they know the landscape, the best routes to take, and how to avoid dangers and pitfalls. Competitive positioning acts like the guide, etching this expertise into the process.

The richer description of competitive positioning helps deepen our understanding of competition—how it informs and can direct elements of scenario planning. In a broader way, the library materials illustrate how essential competitive positioning is to scenarios and to changing mental models. Ultimately, competitive positioning helps anchor the scenarios in the terrain of the industry. In the end, the ambition is to help decision makers understand how to improve their position in the environment: "A strategy should always be a concept for changing the existing competitive advantage. If not, you know, it is not a real strategy" (Wack, 1982a; p. 19).

## 8. The necessity of option planning

Scenarios must lead to options and the set of options requires design. "In any situation, there is always more than just one possibility" (Wack, 1982; p. 8). Again, emphasizing that scenarios are not the outcome, Wack realized that unless scenarios led to novel options, the process was sterile. "In most cases strategies have no options, and in the very few cases where there are options, in fact, they are straw-men, not real options" (Wack, 1982a; p. 1). In other words, artificial options are sometimes put forward as a way of convincing managers to agree to a previously decided and preferred strategy. Unwillingness to

generate and entertain a variety of real options is a serious pitfall for would-be scenario planners and their sponsors—you have to take the exercise seriously and be open-minded to a set of thoughtful alternatives, no matter how uncomfortable they may seem at first.

Wack used the terms neutral and non-advocative (1982b) to describe the nature of real options. Each option must be put on the table and subjected to the same examination and analysis as the others in the context of the set of scenarios. Further, he recalled from his own experiences that without the consideration of real options, decision makers render any scenario and competitive analysis as worthless (Wack, 1982b). To omit option planning is to willfully divorce scenarios from strategy. To ignore option planning due to lack of awareness is an indicator of a less than elementary understanding of scenario planning.

## 9. Including intention—strategic vision

Strategic vision captures the kind of company you want to be. “It is a system for dominance . . . You want to dominate one segment of your habitat, one segment of the market. If you don’t want that then you don’t need a strategic vision” (Wack, 1982a; p. 25). Wack used Sony as an example—Sony decided to be excellent in three technologies at once: color, solid-state, and magnetic tape recording. Sony realized that other companies would be equal or better in one of those technologies, but none would be as good in all three simultaneously. Strategic vision “is expressed as a commitment to excellence in a few key capabilities, more than two but less than ten” (Wack, 1982a; p. 26). These elements are combined and coalesce into a unified vision of the ideal company.

Strategic vision serves another important purpose. Wack emphasized that plans cannot be set in stone—they need to be flexible. But it is impossible to change plans every six months and maintain any progress toward goals or competitive positioning. Strategic vision is the one element of permanence in any strategy system. It defines the areas of excellence and describes the company you want to be. It does not deal with how to do. But it is situated at a high enough level that it does not need frequent revisiting. Sure, with major market changes companies can re-invent themselves, and this means recreating the strategic vision. Under more common circumstances, a strategic vision is held for some time.

## 10. Where are we today?

Modern scenario planning has been watered down. Four common practices work against Wack’s conception of scenario planning: (a) a reduction to a two-day workshop, (b) positioning scenarios as the outcome and the product of scenario planning, (c) using scenarios in isolation, without attention to options, strategic vision or competitive positioning, and (d) scenarios as a group process rather than targeted at a decision-maker mental model. We describe these practices in a spirit not of criticism, but one of clarifying the intent of scenario planning as articulated by one of its inventors.

## 11. Two-day workshops will not get the job done

Wack wrote that new recruits to the scenario team were inducted over a full year – a full planning cycle. Times have changed and few organizations employ large strategy and scenario teams. Wack also had the advantage of over 20 years of industry expertise and knowledge at Shell – an indicator of significant industry expertise. However, the Library contains many examples of Wack’s scenario work after Shell, including Singapore Airlines, De Beers (diamonds), Anglo American (gold, and the future of South Africa). The shortest of these projects was eight months and the longest was two years. Scenario planning, the kind developed and practiced and developed by the talented pioneers at Shell, requires an investment of time to study the business environment and think deeply about its dynamics (Kleiner, 2008). Two-day workshops can be enough to rough out areas of uncertainty and are a good way to get the process started, but significant additional work is required to generate the kind of insights Shell scenario planners have become famous for.

## 12. Scenarios are not the outcome

Wack is clear throughout his materials that scenarios are not the outcome. “We had set out not to produce a scenario booklet summarizing views but to impact the microcosm of the decision makers” (Wack, 1984; p. 68). Wack clarified: “the purpose of the scenario and the scenario system is not to produce scenarios, the purpose is option creation, is to generate new options that you would not have thought of otherwise. If it does not do this it has not performed its function.” (1982a, p. 12). The focus on option generation takes scenarios beyond a set of interesting stories and connects them directly to decisions.

Many scenario planners today ply their trade and sell their product as a set of scenarios. This practice misses the mark, creating a feeling of *déjà vu*; we have the plan, now what do we do? Henry Mintzberg (1994) famously pointed out the downfalls of separating strategic planning into two phases of planning and implementation. Are scenario planners headed down the same path? Concluding scenario work with a set of scenarios jeopardizes the long-term utility of scenario planning because it can unintentionally convince executives that scenarios are nothing more than interesting stories.

### 13. Scenarios in isolation are a means to mediocrity

Some say that scenarios are just another tool. While there is some truth in this statement, any tool, poorly or wrongly applied usually makes things worse. You cannot drive a nail with a screwdriver. If you try, it will take far longer than is needed, and you risk damaging the surface surrounding the nail.

Scenarios are one piece of a larger system that has been forgotten. You need scenarios, knowledge of your competitors, a clear idea of what you want your company to be and a willingness to consider real options. Scenarios on their own are meaningless—a set of potentially brilliant and technically impressive stories. Without a connection to real concerns, tailoring to what managers worry about most, and using them to explore and assess options, they accomplish little.

### 14. Scenario planning as group process is a dangerous trap

Wack and his team members never facilitated a group process. They interviewed people and thought deeply. They produced scenarios aimed at changing how decision-makers saw the world. Wack himself was known for making presentations to managers and executives that had the uncanny qualities of good acting and lengthy rehearsal. He was a performer who dazzled his audiences. Today, scenario planning tends to be a group process in which many have equal input. As a result, it can be an exercise in regression toward the mean, generating little that is novel or provocative (Selin, 2007; Van der Heijden, 1997). “Most remarkable plans are the product of an individual. It really is a single brain that is much better fitted to produce a superior plan. The degree of sophistication that can go on inside a brain is much higher than the degree of sophistication in interpersonal relationships” (Wack, 1982a; p. 6).

The early scenario teams reserved the hard work of scenario production for the kitchen<sup>3</sup> – only a select few were allowed to join in the cooking. But like many experts in the kitchen, no cookbook was used. Efforts were targeted at one thing – decision-maker mental models. Attendance at any workshop or presentation was irrelevant to Wack. His job was to lay out how the environment could evolve in significant and unexpected ways and connect it directly to the decision maker mental model. In doing so, he challenged the sets of assumptions that his leaders would cling to. His consistent reference to remarkable plans as the products of remarkable people supports the notion that scenario production should never rest in the hands of “participants” in a workshop. We would do well to consider workshops as a form of group interviewing – the input is important, but the group does not produce scenarios.

### 15. The hidden messages for executives and managers

So, what does all of this mean for Executives and Managers? Scenario planning is a deep experience, requiring rigorous thinking, analysis and concentration stretched out over several months or more. Advice from Wack can be distilled succinctly and directly as follows:

- Scenarios alone are not enough—they must be integrated with other elements of a “nervous system” and they must connect to strategy and options at a minimum. Thinking on competitors and what kind of company you want to be are direct, complementary allies of scenarios and option planning.
- Scenarios are not the product—they are a step toward real options and deeply informed decisions. Be wary of any consultant selling a group process experience that results in a set of scenarios.
- Often combined with scenarios as a stand-alone product, many consultants have shortened scenario planning to a 2-day workshop. This is no substitute for deep thinking. Generating deep insights, new options and novel strategies that truly allow for re-perceiving the situation requires time, reflection and freedom. Invest in planning if you want to stay ahead.
- Make no mistake that the real users of scenarios are decision-makers. Scenario planning is not group process. Certainly there are side-effect benefits of scenario planning (such as team building, group dialogue, and shared mental model building), but these are secondary. Remember that the primary purpose of scenarios is to change the way decision-makers see the world, so that they will act with a wider, more informed point of view.

### 16. Conclusion

This article attempts to capture Wack’s intentions behind scenario planning—again, so much of which has been lost in today’s increasingly fast-paced approach to problem solving and shortcut approaches to scenario planning that do not address the fundamentals.

<sup>3</sup> According to Napier Collins (personal communication, December 5, 2014), Ted Newland used the term “the kitchen” to refer to the behind the scenes work of building scenarios. In the early days, scenario planning did not rest on a series of workshops, rather the teams worked somewhat in isolation to produce a set of scenarios intended to convince decision makers of changing dynamics on the horizon.

Voltaire (1962) said that common sense was not so common. This article summarizes Wack's "common sense" about how to maximize the effectiveness of scenario planning. To conduct scenario planning the way Wack intended it is not easy. In an interview, Napier Collyns remarked:

In my experience, scenario planning is an interpretive practice – it's really closer to magic than technique. . . . It's not something you do in a hurry. It's done after several dreams. You suddenly know what you are going to do next. Brainstorming is not a substitute for magic. Look long enough, hard enough, and the pieces will fall into place. Magic is a very difficult thing– most people spend their whole life cutting magic out. Sharpe, 2007; pp. 20–21).

Tiered scenarios, knowledge of competitors, long-term strategic vision, and genuine option planning are required to truly know the environment and anticipate major changes.

The conclusion of this article can only invite readers to consider seriously the advice of Wack and what it means for the practice of scenario planning today. We also suggest that a wealth of additional knowledge resides at the Pierre Wack Memorial Library. Pay a visit. There are additional hidden messages waiting to be revealed.

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## Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.plantsci.2004.08.011>.

(See Wack 2015a, 2015b).

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