

Chapter 2: HOW THIS STORY WILL BE TOLD

The story of SRI is not a single story but rather many stories, seldom synchronized, often overlapping, filled with serendipity and with unlikely personal connections. Like SRI itself, which is concurrently both simple and complex, the story of SRI has many actors and many facets, many coincidences, and also many missed opportunities, but it has a consistent story line. The story is protean, shape-shifting and evolving, often hanging together with fortuitous connections, and also getting hung up with frustrating blockages, lapses, or indifference.

There is some drama and sometimes suspense, often courage and examples of heroism, but also with some skullduggery along the way. Indeed, it is Tolkien-esque in various ways, being centered around a quest as described in the Preface, with a multiplicity of names and relationships that are woven together by an unfolding plot. But it is more about learning, serendipity, and altruism than about conflicts between good and evil.

To bring these diverse elements together in a coherent way, this memoir of SRI is organized around three questions. These questions are considered sequentially in Parts I, II and III of this memoir, even though their answers were generated more or less concurrently. Some degree of orderliness emerges only in retrospect. The three themes were shown schematically in the diagram that concluded this memoir's Preface.

- **Comprehension of SRI:** How did SRI come to be understood as a coherent opportunity that can benefit concurrently producers, consumers and the environment? How did an understanding of SRI get assembled and validated with scientific evidence? This is a story in itself, with important roles for farmers and other actors as well as researchers.
- **Acceptance of SRI:** How did knowledge about SRI spread and gain recognition as something valid and real, despite initial resistance within the science community and from some powerful institutional interests? What can be learned from this experience about gaining traction for an innovation? This is a broad question that concerns more than SRI and rice.
- **Spread and impact of SRI:** How did SRI come to be utilized and improved upon by millions of farmers in dozens of countries all around the world? And with what effects on people's lives? How has SRI gained momentum and evolved as a largely bottom-up, civil-society innovation? These questions also point to broader processes and forces beyond agriculture.

That this book is written as a memoir of a thing rather than of a person makes it rather unusual. But the SRI story has so many personal aspects and impetuses that it should not be relegated to an impersonal narrative. That SRI has over time developed an identity, and even it seems a personality of its own, makes framing the story as a memoir pertinent even though unorthodox. In several ways, the telling of its story presents some particular challenges.

Persons who have been most involved in different aspects of the SRI story -- whether engaged in the creation and investigation of SRI or in its dissemination and further development -- have tried, usually unsuccessfully, to avoid regarding and treating SRI as a thing because it is much more than this.¹ Speaking for myself and I think for others also, we prefer to use the term 'SRI' as an adjective rather than as a noun, finding it more meaningful to speak about SRI methods, SRI concepts, SRI principles, etc.

However, linguistic habits and conventions being what they are, SRI has been invariably thought of and spoken about as a thing. We have ourselves continually succumbed to such reification, even as we regret it. Hopefully, readers can keep in mind that SRI is not a thing, just as it is not a technology. Unfortunately, language continually conveys such simplification.

We have tried to avoid the mental posture of *reductionism*, not thinking of SRI as 'only X' or as 'always Y' or as 'no more than Z.' Part of the success of SRI can be attributed to efforts to maintain an open-ended understanding of the phenomenon and phenomena of SRI. We have sought to treat it as something that is more inclusive than exclusive, regarding SRI as something evolving rather than something finished and fixed. Still, the tendency to reduce complex phenomena to simple or single elements is strong in all of us.

We have seldom found farmers to be confused by some degree of ambiguity in the concept or definition of SRI. However, the lack of sharp boundaries for SRI has perplexed and even aggravated some scientists whose thinking is reductionist.² Farmers, fortunately, are particularly concerned with results, and these have been both substantial and real with SRI, even if this phenomenon is not defined and delimited in any absolute way. Once farmers have understood the basic ideas of SRI and have seen their fruitfulness, farmers have been little concerned with 'what is SRI' or 'what is not SRI.'

We have preferred to follow the Biblical precept for understanding SRI – the innovation should be defined and known 'by its fruits'³ rather than by *a priori* debates about definition and delineation. Maintaining a soft focus on SRI rather than a hard one has been more of an aid than an impedance for advancing the knowledge and practice of SRI.

COMBINING BIOGRAPHY AND AUTOBIOGRAPHY

There are two reciprocal but contrasting ways by which one can look at and understand phenomena: how they look from the outside, and how they appear from inside. These

perspectives correspond to the well-known difference between biography and autobiography. In technical terms, these two perspectives have been designated respectively as *etic* and *emic*, as discussed below. Taken together, in the words of the anthropologist who introduced the *etic/emic* distinction into the social science literature, these perspectives give us “a stereoscopic window on the world.”⁴ Combining them makes for a kind of hybrid story-telling.

The exterior (*etic*) perspective undertakes to represent reality as it is observed and analyzed. It uses external, objective terms of reference and employs impersonal, third-person language. Reality is objectified with the expectation that by means of definitions, methodologies, measurements, data-gathering, and other efforts, there will emerge accounts that anyone and everyone can agree upon as being correct and all the same. The *etic* perspective presents an account or description not particular to any individual or culture; in grammatical terms, it is a *third-person* report. In the philosophical tradition of Plato, truth is regarded as something unitary, absolute, universal, and unchanging.

The contrasting interior (*emic*) perspective appreciates and represents reality in terms of people’s subjective experiences and understandings. These representations of reality are invariably somewhat different from one another, and usually evolve over time. Such reality is multi-faceted and also somewhat fluid. An *emic* perspective is a *first-person* account. While *etic* accounts deal with *he, she, it* and *they*, *emic* reports are presented in terms of *I* and *we*.

Emic reports take account of considerations of meaning and value, elements of human existence and the human condition that are peripheral to the *etic* perspective. If and when an *etic* analysis considers these interior elements, they are objectified, abstracted, and homogenized as much as possible, eliminating personal idiosyncracies and coloration. More subjective *emic* perspectives, on the other hand, remain infused with concerns about meaning and value, not rejecting and avoiding personal perspectives because it appreciates that both meaning and value are ultimately and irreducibly personal.

As this will be a story rather than a philosophical treatise, not conceived as a scientific construction, it combines and blends both perspectives: the external and the internal. It embraces both, not seeking a simple compromise or conflation of the two. It remains aware of and seeks to benefit from their different, contrasting perspectives and roles.

The SRI story as told here is an effort to present facts and conclusions that persons who come from different starting points can agree on and can share. At the same time, personal perspectives, not only my own but others’ also, are woven into the narrative. This will give readers a sense of the immediacy and contingency of what happened, not abstracting events into homogenized, neatly-organized elements. This memoir is a biography of SRI with many autobiographical elements, a hybridization that I and others will try to make a fertile one.

The etic-emic distinction helps to achieve different and multiple appreciations of the same phenomena. The first perspective, being essentially exterior, is presumably more objective and encompassing, while the second, more interior, is more personal with attendant risks of bias or incompleteness. Each perspective enlarges upon what can be learned from the other. Because the two terms can be understood and used without reference to their derivation from linguistics, we will not dwell here on their origins.⁵ Both perspectives are valid, being real in different ways, their respective standpoints being as follows.

Perspective	External (etic)	Internal (emic)
Style of writing	Biography	Autobiography
Vantage point	Exterior	Interior
Grammatical perspective	Third-person	First-person
Orientation	Objective/impersonal	Subjective/personal
Frame of mind	Detached/disengaged	Attached/engaged
Analytical preference	Quantitative	Qualitative
Methodology	Measurement	Interpretation
Conception of truth/reality	Unitary	Multiplicity
Knowledge to be gained from	Data-gathering, research and analysis	Participant-observation, recording

Like any analytical constructs, these contrasts should not be reified. They are mental constructions rather than realities that exist in their own right. Nor should the distinctions be taken to extremes, because these are polarities that are best used for organizing thinking and for communicating with others. They should be used to reach agreement rather than contribute to divergence. Rather than adopt just one narrative style, more can be learned I think by drawing on both emic and etic perspectives, combining them here to tell the SRI story.

The story will be told within a biographical framework, but with autobiographical elements woven in throughout, to give readers' a richer understanding of the tale. An innovation will be that the autobiographical accounts are not just from my own perspective, even though I have been more deeply involved in all of the facets of SRI than probably anyone else. This book is being written in a participatory way, much as SRI has been itself a thoroughly participatory phenomenon.

A WIKIBLOG E-BOOK

Since this memoir is about an unprecedented kind of innovation, the memoir is itself innovative in format and form. It will take advantage of web-based technology to become a participatory story that is widely accessible and multi-vocal in ways that usual books are not. It will be available on-line but also in PDF format for printing out hardcopy versions. Priority is given to making this story widely and freely accessible in electronic form to anyone who is interested in SRI or just curious.

The chapters are written to be relatively self-standing, not assuming or depending on their being read in sequence and in their entirety. This makes it consultable much like a Wikipedia. This means that there can be some overlapping or repetition because many stories are being told at the same time, and from different perspectives.

The style of writing will be more like that of a blog than a scientific journal article. Rather than footnotes, there are endnotes that elaborate on the story or give sources of evidence that confirm the details of the tale. Hyperlinks in the endnotes will enable readers to easily check out documents, scientific reports, and other evidence for themselves.

It is not a typical e-book because the story weaves in many others' perspectives as well as my own, seeking to offer a more complete and complex understanding of events than can be provided personally. This organization and presentation will permit me to give many persons credit for their respective contributions to the SRI story, most of whose work would be little known and certainly underappreciated unless reported in a compendium like this. The inclusion of personal mini-memoires in an appendix to this e-book weaves in personal accounts and perspectives that are part of SRI's history.

Those invited to contribute to this multi-vocal memoir will include SRI skeptics and critics as well as proponents and protagonists. Their observations can be rebuttals or corrections as well as amplifications or reinterpretations. Others besides the author will share their emic perspectives and help make the etic account as objective, complete and consensual as possible.

This construction will in some ways be encyclopedic, a reference work, but participatory like Wikipedia rather than like a standard encyclopedia. The story has enough drama and surprises and satisfactions that it is not like a typical reference work. It undertakes to be reasonably inclusive, with an organization that enables readers to acquire information and insight in certain subject areas or in a selected slice of the SRI saga. It is a kind of reference work in that sense, but it maintains a narrative throughout and seeks to sustain the liveliness of a story.

Eliciting inputs from the broader community, and not just from friends and supporters can compensate for limitations and biases in my own understanding of events, relationships and outcomes. Even if we could construct just a biography of SRI with the participation of many

others, this would not be as rich and informative, or as interesting, if we did not include autobiographical reflections and emic assessments. This approach makes the manner of presentation resemble a blog, not shying away from personal perspectives.

The idea for constructing the kind of story-cum-history of SRI rendered here came in part from reading the personal reflections from two colleagues, both agronomists, one Dutch and the other Indian, who played very important early roles in bringing SRI to the attention of the world's scientific community. Their unsolicited mini-memoires lead off a collection of reflections, reminiscences, testimonies and critiques that accompany this memoire, making it more polychromatic and more revealing.

Involving protagonists, antagonists, observers, and also readers in a kind of hybrid wikiblog e-book makes for somewhat more complicated story-telling, but I try to keep the story line of this memoire simple and concrete, lively and engaging. In musical terms, the story line is like a melody written in the treble clef, while the richness and harmonics of the music, even some dissonant chords and aberrant rhythms, are found in a bass-clef accompaniment, in the extensive endnotes rather than in footnotes. The chapters convey the main melody with additional harmonies, counterpoints, amplifications, and resonances provided at chapters' ends.

By publishing this memoire as a web-based blog, the story can be made available free to anyone in the world who is interested in knowing it. And by having some search-engine capabilities, the story is made searchable and a kind of reference work. Its website will be set up so that readers can add their own thoughts and observations, making this more than a book. Being written for all kinds of readers, this book is intended to be informative as well as entertaining, encompassing some amusement along with occasional surprises.

This memoire was not conceived, nor will it be presented, as a proselytizing tract. It is not written to persuade readers of the merits of SRI, either by rhetorical appeals or by scientific justifications. Readers can make up their own minds about SRI based on what is known from multiple perspectives. Further, this is not a story about good and evil in a 'Lord of the Rings' manner. Since it is a story about people, it presents quite an array of behaviors and aspirations. There are demonstrations of foresight, idealism, fortitude, independence, imagination, even of bravery and courage as seen in the box below. But there are also accounts of disappointing and even pernicious behavior, so it is a 'mixed bag' in that sense.

Later in this memoire, we see how SRI was spread in Sri Lanka in part through the efforts of a Sinhalese farmer who, during violent separatist ethnic conflict in that country, trained Tamil counterparts in SRI methods on behalf of Oxfam Australia. Although the Tamil separatist forces

had given their permission for this training to be conducted, some of their armed patrols did not know this.

One day a patrol seized Premaratne as he was bicycling to a planned class, which was being held literally 'behind enemy lines.' Some Tamil farmers who were riding by in a bus on their way to the SRI class happened to see Prema being interrogated at gunpoint in a bunker. They got the driver to stop the bus immediately and disembarked to persuade the soldiers to release their teacher, so the class could go on as scheduled.

And we will see how a Malian agricultural trainer working for the government but with support from an NGO in Ithaca voluntarily carried on his work of establishing SRI trials and demonstrations in 2012 after jihadist forces had driven government staff out of the Timbuktu region where he was working. That year, 70 farmers in seven villages in his home area of Douentza carried out SRI trials and calculated their results, despite jihadist roadblocks and opposition to anything coming from outside. Their average increase in yield was calculated as 86%.⁶

We will learn also about SRI colleagues in Liberia and Sierra Leone who carried on their SRI demonstrations and training during the height of the Ebola epidemic in those countries while also conducting Ebola-prevention sessions in surrounding villages. In Nepal, SRI extension was carried out in areas where Maoist insurgents had stopped all government field operations, but farmers got the rebels to exempt and permit SRI work.

Below is a picture from Afghanistan showing an SRI technician-trainer, on the left, being accompanied on a field visit by a farmer armed with an AK-47 rifle. Taliban forces in this area, hostile to the program being managed by the Aga Khan Foundation, had made threats against it. Extension work for agricultural improvements is seldom easy, but in the case of SRI, it has sometimes been also dangerous.



MULTIPLE READERSHIPS

This book is written for persons who want to know about SRI and about what it offers to farmers, households, communities, nations, and the global environment. It is written for anyone curious about the three questions laid out above: How did SRI come into existence and how did its mechanisms and merits come to be understood? How was initial resistance to SRI overcome? And how was knowledge about SRI spread in countries around the world? This spread has been slower than might have been expected, given the benefits on offer, but in retrospect it may be considered as reasonably rapid. The book also seeks to illuminate some larger issues and problems of institutional change and unresponsiveness, of scientific progress and rigidity, of human nature and weaknesses.

- The book is written particularly for persons who have participated in different aspects of this saga and who would like to learn more about the many moving parts of SRI -- about the fortuitous events, the disappointments, the breakthroughs, and so forth. It is for anyone who wants to gain an appreciation of this innovation which is changing the way that agriculture gets practiced, not just as SRI for growing rice, but as part of a broader agroecological movement that is gaining international recognition and momentum.⁷
- It is written also for persons who have heard about SRI and are curious to know more about it because of the claims being made, or possibly because the controversy around it has attracted their attention. The book should help them to become knowledgeable about this innovation and about what it can do for people and for the natural ecosystems upon which we depend.
- In addition, the book is written to shed light on the way that intellectual and social change can be made – or how it is often impeded – in an age when humankind needs to be making profound modifications in our science and technology, in our economies and societies, and in our institutions, our governance, and our culture. Without improvements in the ways that our institutions function and without reducing their malfunction, it is doubtful that we will be able to reach the end of this century without economic, social, political and environmental retrogression that was unimaginable during the optimistic last half of the 20th century.

Because electronic publishing can now make books like this one widely available and inexpensive, even free, this memoir is not written as a conventional book, with an aspiration to become a best-seller, although it is hoped that there will be wide and avid readership. Rather it is written to inform people now and in years to come about how the

innovation/phenomenon/movement of SRI arose, how it became comprehended, accepted, and eventually influential.

The book is thus written for all of the friends and colleagues, farmers, NGO workers, officials, researchers and others who are open to new ideas and to thinking outside of our respective 'boxes,' for anyone who is curious about and hopes to contribute in some way to having food production that is better suited than now to the needs and conditions of this 21st century.

'Good News' vs. 'Fake News'

Throughout this story, a kind of unifying theme is the tension between different characterizations of SRI as 'good news' or as 'fake news.' SRI predates by several decades the concept of 'fake news' that has been recently promulgated in the United States and elsewhere. This designation describes well how SRI was regarded and received by many established scientists and institutional interests when it first emerged on the world scene beyond Madagascar. SRI was dismissed as something impossible, something fantastic, indeed something not even worth discussing or evaluating.⁸ Thus, for some years, the classification of SRI reports as 'fake news' created significant impedance.

At the same time, persons who worked with SRI methods in the field and had seen their results and others, often scientists who had evaluated SRI with standard research methods, came to regard SRI as 'good news,' something to be disseminated in the original sense of the word 'evangelism.' This word means literally 'the spreading of good news,' although it has acquired a negative connotation of zealous advocacy that is pejorative and demeaning.

In fact, the 'good news' of SRI has been a strong challenge to scientific orthodoxy, to the doctrines of the Green Revolution and to a widespread belief in genetic determinism. While geneticists understand that genes do not control outcomes in the manner of blueprint, the metaphor of DNA as a genetic blueprint gained widespread acceptance as soon as the mysteries of DNA's double helix started to be unraveled and explained.

Those who best understood the complexity of 'genetic machinery,' an unfortunate metaphor, knew that DNA and other cellular components contribute to organisms' development in conjunction with a myriad of environmental factors.⁹ This is often referred to as 'G x E interaction,' the joint and combined effects of genetic and environmental influences. SRI was a dramatic confirmation of the potency of such interaction, challenging the popular narrative of genetic potentials as shaping and determining outcomes rather than as being the starting points for development.

We have found that SRI practices give their highest yield when used with 'improved' varieties. However, under SRI management the yields of 'unimproved' rice varieties can also be greatly increased, and these varieties are often more profitable for farmers because they command a higher price in the market, reflecting consumer preferences. So, while SRI confirms the value

of genetic improvement, it also shows that making improvements in genetic potential, while important, is not as essential as implied by genetic fundamentalism.

Also, SRI shows that purchased agrochemical inputs are not as necessary for agricultural success as commercial interests would have farmers, consumers and policy-makers believe. How resources are managed can be as important as the resources themselves, although positing an opposition between these factors is no more enlightening than has been learned from the nature vs. nurture debate.

As indicated at the outset of this prologue, the story of SRI is not yet finished, and many more chapters remain to be written beyond what will be provided here. There are many small and specific, often charming and instructive, pieces of this story that can be shared now, along with some overarching and highly significant larger elements. These first two chapters have laid out both the purpose and game plan for the book, with some intriguing proffers that should evoke curiosity and dispose readers to join in following an adventure.

As our scientific and cultural knowledge expands, it sometimes seems that there are fewer and fewer frontiers for surprise and discovery. Large organizations and huge budgets dominate our landscape and purview. But there can still be surprise and discovery, starting on a small and individual scale, which can become something momentous when many persons join together. This realization is the starting point for this memoir on the System of Rice Intensification, appreciating the observation made many years ago by the American anthropologist Margaret Mead:

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.”

While the SRI story has its foundations in the biological sciences, it is infused through and through with social science considerations, and vice versa. We live not in an either/or world, but in a both/and universe.

This Is Not a Guinness Book of Records for Rice Production

Throughout this memoir, there will be a lot of rice yield results and other data reported. These numbers are as correct as possible, but the development and spread of SRI has not been based on scientific experiments, so many numbers reported are not as precise or validated by statistical analysis as most researchers would like.

This memoir reports only numbers that we have reason to believe are representative of the real situation on the ground, being as accurate as the circumstances permit. Where comparisons are made, the numbers reported were obtained by using the same methods of measurement for both magnitudes compared. So if there was miscalculation of the absolute numbers, the *ratios* between the relative numbers should be reasonably reliable and

informative. In agriculture, relative numbers comparing plots or fields at the same time or over time are more meaningful than are absolute ones.

There has been no intent or reason to exaggerate or misrepresent data. Those who have reported these results had no personal stake or advantage in presenting superlative numbers. Indeed, to exaggerate or misrepresent data would go against the best interests of the farming communities whose benefit has been the main motivation for those who work with SRI, which is neither a proprietary nor a commercialized innovation.

Effort has been made to arrive at and report the most accurate averages possible, often giving ranges where these are known. But in any case, it should be accepted on all sides that the case for SRI will not be proven or disproven by any particular set of numbers. Rather the strength of the case for SRI rests on a large body of experience and evidence. This said, there is a large body of rigorous research on SRI that has been published in the peer-reviewed literature which meets exacting scientific standards, consistent with and confirming what has been learned from conscientious field observations and reports.

There have been occasional super-yields with SRI methods (Chapter 10) that have attracted attention but also criticism and opposition, sometimes even ire. Such results have been reported not boastfully or competitively, but to call attention to potentials that exist within rice and other genomes, potentials that are being elicited by SRI practices. Record yields are not in themselves of much significance anyway, except among some agricultural specialists. It is averages, ratios, trends, costs and various benefits that are of relevance for the farming community, for consumers, and for the environment.

Accordingly, we present here only what we think is correct to the best of our knowledge and relevant to the tasks of benefiting food producers, consumers, and the environment. Any skeptics are invited to work with us in good faith to advance scientific understanding while also helping to make SRI opportunities for improving human, soil and environmental health more widely known and accessible wherever such improvements can be actualized.

THE DIALECTIC OF PROBABILITIES VS. POSSIBILITIES

A recurring theme in this memoir is the tension between what exists – what is most likely under present circumstances and with current knowledge – and what could be – what is possible with initiatives that change our and others' circumstances and that add to what is known. We should be careful that the latter is not just wishful thinking.¹⁰ Wishful thinking can be harmful and delusional if unsupported by evidence that there is some reasonable possibility of its becoming real. At the same time, outside-the-box thinking is essential if the world is to be made a better, more secure, and more sustainable place. Looking for something better beyond the present situation is necessary for making progress. But it needs to be grounded in experience, facts, and theory, with tenable explanations.

This tension and its fruitfulness or folly will be addressed in Part IV, in reflections on the SRI experience that are kept out of Parts I, II and III. In this introduction to the memoir, we simply note that much of the story can be characterized as an exploration of possibilities, of their validation and verification (Part I), of their championing (Part II), and their realization, their being made real and widespread (Part III).

We need to be clear about the distinction between possibilities and probabilities. What is most likely to prevail in the absence of innovation, novel efforts and interventions? This is what is most probable. One of the unhappy realizations from the SRI experience is how powerful are the forces and counterforces of inertia. This impedance is supported by existing configurations of interests and power and reinforced by the weight of existing knowledge and thought, which give rise to traits like overconfidence and lack of curiosity.

In life, and especially in the domain of development policy and activity, what is most probable is almost never what is most desirable. We do not live in the best of all possible worlds, far from it. And we have reason to expect that the future may be less rather than more accommodating of our aspirations and needs. No generation has had the certainty of a more beneficent future, all have had to create this. But our and future generations will have to reckon with the adverse conditions of climate change, with increasingly unfathomable and unmanageable complexity and vulnerability of our institutions, and with greater scarcity of living space and unspoiled natural resources as our populations grow.

There are some promising technological, intellectual and social possibilities for coping with these challenges, so it is possible to summon up optimistic scenarios. We need always to be realistic about the probabilities that are shaped by known forces, trends and constraints, as well as by known unknowns and unknown unknowns, to use a memorable characterization. But we also need to be open to thinking outside of our present mental and institutional 'boxes.' Unless we can do so, and do so effectively and boldly, our future looks indeed grim.

The SRI story is one of outside-the-box thinking and practice, starting with the efforts of an intelligent, independent-minded, and devoted French priest who spent much of his long life in Madagascar, working closely with a variety of Malagasy farmers and friends (Chapter 3). From his observations and testing he discerned possibilities that could countervail the surrounding reality of poverty and difficulty. How these possibilities were made into reality for millions of people over the past 20 years is the story of SRI so far.

NOTES AND REFERENCES

- ¹ This mental process is known as reification, from the Latin word for ‘thing’ (*res*). This makes phenomena that do not have a material existence into ‘things.’ This is a strong mental propensity. A good example of reification is the concept of ‘coldness,’ which is really the absence of heat. What actually exists is heat, more or less. But humans have imagined and ‘reified’ cold as something that is real, that exists in its own right.
- ² D. Glover, J-P. Vernot and H. Maat, ‘On the movement of agricultural technologies: Packaging, unpacking and situated reconfiguration,’ in *Agronomy for Development: The Politics of Knowledge and Agricultural Research*, ed. J. Sumberg, 14-38, CRC Press, Boca Raton, FL (2017).
- ³ When warning about ‘false prophets,’ Jesus advised: “By their fruits you will know them” (Matthew 7:16 and 7:20). This is an inductive, empirical approach to ascertaining truth.
- ⁴ K. Pike, ‘[A stereoscopic window on the world](#),’ *Bibliotheca Sacra*, 114: 141-156 (1957).
- ⁵ An anthropologist trained in linguistics, Kenneth Pike, first proposed this conceptualization which, in a way, objectifies subjectivity. He argued that the *etic* and *emic* categories of reporting and explanation both deserve respect as different domains of knowledge. The distinction he made was not simply a difference between objectivity and subjectivity, as Pike was not willing to concede that subjectivity did not have its own claims for a kind of objectivity. Nor did he accept that scientific endeavors should exclude considerations of subjectivity. See Pike’s *Language in Relation to a Unified Theory of the Structure of Human Behavior*, Vol. 24, Walter de Gruyter GMBH, Chicago (1967).

The *etic* perspective parallels the study in linguistics of what is called ‘phonetics.’ This is the cataloging and representation of all the sounds used in the world’s many languages in purely objective terms. By using symbols that stand for each respective sound, one can reproduce the words from any language without any connection to their meaning. Anyone who understands and is able to reproduce the international phonetic alphabet, which currently encompasses 107 letters together with over 50 diacritic markings that modify these letters’ sounds, can pronounce any word in the thousands of languages from Aramaic to Zulu.

The *emic* perspective, conversely, is analogous to linguists’ understanding of ‘phonemes,’ the building blocks of sounds with which anyone can construct spoken words. Phonemes enable people to convey meaning in and through language. They are objectifications of knowledge and intention in the spoken word; however, ultimately the origins of meaning are subjective.

For example, the common English word ‘the’ is composed of two phonemes -- *th* + *ə*, the latter symbol (known as *schwa*) standing for the unstressed neutral vowel sound. The

word ‘the’ when pronounced in a Brooklyn dialect will be spoken as ‘de,’ combining *d* + *ə*, with the phoneme *d* being equivalent to the phoneme *th* used in most English discourse. In Brooklyn, the pronunciation ‘de’ has the same meaning as sounding out ‘the’ when it is spoken in Manhattan.

The distinction between *emic* and *etic*, which can be widely applied, originated in part from a certain defensiveness among anthropologists about whether or not their studies had scientific merit and should have scientific standing. Economists, political scientists and other social scientists who were laying claim to the mantle of ‘science’ for their work often distanced themselves from anthropology, discounting it as ‘not scientific’ for lack of objectivity, precision, quantification, replicability, etc. While anthropology could be interesting and insightful, even instructive, was it scientific? Were its reports true in any incontestable way?

Some anthropologists were convinced that their work deserved scientific status, while others argued that this was not important and not worth striving for. Making the distinction made between *etic* and *emic* asserted that both views are important and valid. This author, having preferred *etic* methodology to *emic* approaches for most of his professional life has come to favor more parity between the two.

⁶ [‘Farmers succeed despite war in Mali,’](#) *Cornell Chronicle*, January 24, 2013.

⁷ FAO, [Final Report for the International Symposium on Agroecology for Food Security and Nutrition, Sept. 18-19, 2014](#), UN Food and Agriculture Organization, Rome (2014); M. Altieri, *Agroecology: The Science of Sustainable Agriculture*, 2nd ed., Westview Press, Boulder, CO (1995); J. Pretty, *Regenerating Agriculture: Policies and Practices for Sustainability and Self-Reliance*, Earthscan, London (1995); S. Gliessman, *Agroecology: The Ecology of Sustainable Farming Systems*, 3rd ed., CRC Press, Boca Raton, FL (2014).

⁸ The first pronouncement from IRRI regarding SRI began with this sentence: “Discussion of the system of rice intensification (SRI) is unfortunate because it implies [that] SRI merits serious consideration. SRI does not deserve such attention. . . .” Thomas Sinclair, [‘Agronomic UFOs waste valuable scientific resources,’](#) *Rice Today*, 3: 43, International Rice Research Institute, Manila (2004).

Some concurrent rejections of SRI were emphatic, even vehement, e.g., “Science is challenged from time-to-time by claims that are completely outside the usual boundaries of observation and experience (e.g., reports of flying saucers (UFOs) and creationism). . . . Unfortunately, agronomic science is not immune to such problems, particularly as they relate to [SRI] claims of miraculously high crop yield.” Sinclair and Ken Cassman, [‘Agronomic UFOs?’](#) *Field Crops Research*, 88: 9-10. An earlier draft of the Sinclair-Cassman essay, which happened to be sent to me before publication, characterized SRI as “voodoo science.” FCR editors apparently toned down this language before publishing it.

Note the emotionalism of the title of an article that appeared in the same issue. J.E. Sheehy et al., '[Fantastic yields in the system of rice intensification: Fact or fantasy?](#)' *Field Crops Research*, 88:1-8 (2004). These articles are considered further in Chapter 21.

⁹ An instructive exploration of these issues was Susan Oyama's *Evolution's Eye: A Systems View of the Biology-Culture Divide*, Duke University Press, Durham, NC (2000). Carl Zimmer offers an eminently readable and up-to-date discussion of genetics that illuminates both its mechanistic and non-mechanistic aspects in *She Has Her Mother's Laugh: The Powers, Perversions and Potential of Heredity*, Dutton, New York (2018).

¹⁰ When in 1998 my Cornell colleague Olivia Vent asked an economist-friend in the World Bank, Jock Anderson, what was the thinking about SRI within the World Bank? He responded that most Bank staff thought of SRI as "an anthropologist's wishful thinking."

As seen from this memoire, that was quite a mistaken view, apart from the fact that my academic training was in political science, not anthropology. SRI was not a matter of wishful thinking, but of observing results in the field and talking with farmers and taking them seriously. My style of inquiry maybe appeared to economists to be some kind of agricultural anthropology because I spent more time in the field than in laboratories or libraries. In any case, with SRI we were talking about real causes and real effects, not wishful thinking, although we had and continue to have great hopes for helping people improve their lives by making better use of their available resources.

PICTURE CREDITS: Rena Perez (Cuba); Robert Bimba (Liberia); Khidhir Hameed (Iraq); Gamini Batuwitage (Sri Lanka); Miyatty Jannah (Indonesia); George Rakotondrabe (Madagascar); Ali Mohammad Ramzi (Afghanistan).