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# Sweetness

Edited by John Dobbing



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With 33 Figures

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## Preface

Very few books, especially when written by many authors, have passed through any serious process of peer review. That this one has done so is due to the special way in which it was produced.

All eighteen authors were asked to submit chapters which were then circulated to each of the others. Everyone was asked to write considered Commentaries on each chapter, with references where necessary, and these too were circulated to all the other authors.

The purpose of the Commentaries was to be constructively critical and, where appropriate, to highlight areas of difference rather than to reach a consensus. Research workers, of course, always strive to reach a common truth in the end, but in the process their findings and ideas pass through a seemingly interminable period of discussion and argument; and during this time their enthusiasm is sharpened by the constructive cut-and-thrust of lively debate. Progress, indeed, comes as much from open discussion as from new discovery. New ideas and new results are regularly dipped in the acid of other people's opinions and findings, so that what remains is refined and likely to be reliably contributory. Our book is meant to be a contribution to that process.

When all this had been done the eighteen authors and the Editor were able to meet together for two long days and finally hammer out those arguments which were much less easy to discuss by correspondence. We met privately and informally, without any audience and with no recording, working through each chapter in turn and all the Commentaries until the finished product emerged.

Each chapter, however, remains its author's responsibility. After reading and listening to everyone else's attitudes to his subject, and after defending his own, an author was left completely free to write the chapter in the way he wanted. It was nevertheless often interesting to see what a substantial modification actually took place as a result of the full and frank discussions we were able to have in a closed, domestic atmosphere.

Those Commentaries which resulted in changes in the chapters have not been published in the book. Those which remain and are reproduced

at the end of each chapter are some which address points of scientific interpretation which were not, or did not need to be, resolved. In some cases the original author has contributed his 'reply' and this immediately follows the relevant Commentary.

You, the reader, cannot therefore participate in much of the fascinating 'domestic' debate we had. It was private to us, just as the referees' comments on a paper submitted to a learned journal are private. But in return we can and do present you with chapters which have been peer-reviewed like no other, by seventeen colleagues in the general field; and we hope you will appreciate this and even be able to discern the advantages of their enhanced quality.

Editorially we have tried to respect the differences between American and English English; all non-American chapters of whatever nationality are, as far as possible, expressed in the English variety. The way in which the book was produced, and the way we worked, allowed a much faster publication time, but that did involve everyone in much more work than is usual in an enterprise of this kind, and may also have resulted in a few errors, for which we apologise.

We would like to record our Editorial appreciation of the way authors responded to what on occasions were importunate demands, and we hope the final product will be regarded by them too as the better for all their hard work. We are also grateful to our Publishers for their ready cooperation.

Finally our grateful thanks are due to the International Life Sciences Institute (ILSI), whose Organising Committee selected the participants and who sponsored our endeavour, to my secretary Mrs. Irene Warrington, who bore the brunt of an immense administrative load, and to my wife, Dr. Jean Sands, who helped a great deal in the detailed scientific management. At the end of our deliberations a public Symposium was held in Geneva, on 21–23 May 1986, again sponsored by ILSI, at which the authors presented their finished papers.

St. Julien de Cénac  
June 1986

John Dobbing

## Note

Sweetness is a sensation that all of us experience and which seems to affect a good deal of our eating and our social behaviour. When we invited distinguished scientists from the fields of fundamental research, health and the food industry to join together to write this book they were asked as far as possible to consider *sweetness*, as distinct from *sweeteners*, and we think this is the first time *sweetness* has been specifically treated in this way. However, contributors have naturally not always been able to distinguish between the two because of the obviously indissoluble link between them. Our book therefore does deal, though not exhaustively, with sugar where this seemed relevant.

*The Organising Committee*

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# Contents

## SECTION I. The Nature and Taste of Sweetness

### **Chapter 1. Chemical Aspects of Sweetness**

<i>Gordon G. Birch</i> .....	3
Introduction .....	3
Theories of Sweetness .....	3
Chemical Classes Which Cause Sweetness .....	5
Quality, Intensity and Persistence of Sweetness in Relation to Chemical Structure .....	7
Interactions of Molecules and Tastes .....	7
The Fundamental Chemoreception Mechanism .....	9
New Approaches to Sweetness Chemoreception Studies .....	10
Conclusions .....	12

### **Chapter 2. Neurophysiological Aspects of Sweetness**

<i>Thomas R. Scott and Barbara K. Giza</i> .....	15
Introduction .....	15
The Neural Code for Sweetness .....	15
Spatial Distribution .....	15
Temporal Distribution .....	20
Conclusion .....	21
Sweetness and the Neurophysiology of Hedonics .....	21
General Considerations .....	21
Alterations in the Neural Code for Sweetness .....	22
Conclusions .....	28
Summary .....	28
Commentary .....	31

### **Chapter 3. Is Sweetness Unitary? An Evaluation of the Evidence for Multiple Sweets**

<i>Linda M. Bartoshuk</i> .....	33
Introduction .....	33
Neurophysiological Evidence for Multiple Sweet Receptor Mechanisms .....	33

Single Fiber Recordings .....	33
Substances That Compete with or Damage Sweet Receptor Mechanisms .....	34
Saccharin and Sucrose Mixtures .....	36
Species Differences in Responses to Sweeteners .....	36
Psychophysical Evidence for Multiple Receptor Mechanisms .....	36
Cross-adaptation .....	37
Sweetness on Various Tongue Loci .....	41
Sweetness and PTC/PROP Status .....	42
The Artichoke Effect .....	42
Correlations Across Sweeteners .....	42
Sweetness and Diabetes .....	43
Mixtures .....	43
Sweetness and Age .....	44
Sweetness and Reaction Time .....	44
Summary .....	44
Commentary .....	46

#### **Chapter 4. Selected Factors Influencing Sensory Perception of Sweetness**

<i>R. M. Pangborn</i> .....	49
Introduction .....	49
Sweetness Responses in Relation to Psychophysical Measurements .....	49
Thresholds and Discrimination .....	50
Perceived Intensity .....	50
Descriptive Analysis .....	51
Affective Tests .....	51
Interaction of Sweetness with Other Tastes .....	51
Interactions in Aqueous Solutions .....	51
Interactions in Foods and Beverages .....	55
Interaction of Sweetness with Other Sensory Attributes .....	56
Color .....	56
Aroma .....	57
Viscosity .....	57
Solution Temperature .....	59
Conclusions .....	60
Commentary .....	63

#### **Chapter 5. Sensory Sweetness Perception, Its Pleasantness, and Attitudes to Sweet Foods**

<i>Jan E. R. Frijters</i> .....	67
Introduction .....	67
Perceived Sweetness Intensity .....	68
Experienced Pleasantness of Sweetness .....	69
The Origin of the Pleasantness of Sweetness .....	73
Attitudes Towards Sweetness and Sweet Foods .....	74
Commentary .....	79

## SECTION II. The Social Context of Sweetness

**Chapter 6. Attitudes Towards Sugar and Sweetness in Historical and Social Perspective**

<i>Claude Fischler</i> .....	83
Introduction .....	83
Uses and Perceptions of Sweetness in Western European History:	
An Overview .....	84
The Early Status of Sugar: Spice and Medicine .....	84
The Emergence of Reservations About Sugar .....	85
“Sweet Revolution” in the Nineteenth Century: the	
“Vulgarisation” of Sugar .....	86
Contemporary Attitudes .....	87
Modern “Sacharophobia” .....	87
Ambivalent Attitudes and the Social Management of Pleasure....	89
Fluctuations and/or Trends in Attitudes and Usage .....	91
Sweets and Sugar in the French Press: a Content Analysis .....	93
Medicine, Social Ideologies and Individual Behaviour .....	96
Commentary .....	98

**Chapter 7. Sweetness, Sensuality, Sin, Safety, and Socialization: Some Speculations**

<i>Paul Rozin</i> .....	99
Sweetness, Sin and Sensuality .....	99
Sweetness and Safety .....	101
Some Semantics: What’s in a Name? .....	103
Sweetness and Socialization .....	104
Intrinsic and Extrinsic Motivation .....	104
A Psychological Taxonomy of Food Acceptance and Rejection ...	105
Sweetness as a Socializing Agent .....	106
Sweetness as Reward: Reversing or Preventing Liking .....	107
Acquiring Contexts and Meanings .....	108
Summary .....	109
Commentary .....	110

## SECTION III. Inborn and Acquired Aspects of Sweetness

**Chapter 8. Opioids, Sweets and a Mechanism for Positive Affect: Broad Motivational Implications**

<i>Elliot M. Blass</i> .....	115
Introduction .....	115
Experimental Analyses .....	119
General Discussion .....	121
Commentary .....	124

**Chapter 9. Development of Sweet Taste**

<i>Gary K. Beauchamp and Beverly J. Cowart</i> .....	127
Introduction .....	127
Newborn Infants .....	128
Maturation and Sensitivity .....	128
Dietary Experience and Sweet Acceptability .....	130
Age and Sweet Acceptability .....	132
Discussion .....	136
Commentary .....	138

**SECTION IV. Sweetness and Food Intake****Chapter 10. Sweetness and Food Selection: Measurement of Sweeteners' Effects on Acceptance**

<i>D. A. Booth, M. T. Conner and S. Marie</i> .....	143
Objective Acceptability of Sweetness .....	143
Perception of Sweetness .....	143
Food Selection: Observed Datum or Hypothetical Process? .....	144
Objective Influences of Sweetness on Selection .....	145
Sweetness in the Selection of Familiar Foods .....	145
Development of Effects of Sweeteners on Food Selection .....	145
Preference for Sweetness Within the Food Complex .....	146
The Linear Sweetener/Food-Selection Function .....	147
Food Sweetness Ideal Points and Rejection Points .....	147
Objective Sensory Distances from Ideal to Rejection .....	147
The Tolerance Triangle .....	148
Characterised Tolerance Functions .....	149
Differences in Sweetness Acceptance Between Individuals .....	153
Stability of Measurement .....	153
Variation Among Individuals in Average Ideal .....	154
Roles of Sweetness in Food Selection .....	154
Rapid Objective Measurement of Sweetness Selection .....	154
Weight Control Problems: Sweet Preference or Abnormal Satiation? .....	154
Normal Role of Sweetness in Food Selection .....	156
Commentary .....	158

**Chapter 11. Sweetness and Satiety**

<i>Barbara J. Rolls</i> .....	161
Introduction .....	161
Alliesthesia: Physiological Usefulness and the Changing Hedonic Response to Sweetness .....	161
Sensory-Specific Satiety .....	162
How Specific Is Satiety? .....	164
Sweetness and Monotony .....	164
Differences Among Sugars in Their Effects on Satiety .....	165
Sweetness in Drinks .....	166
The Sweet Taste Can Override Physiological Satiety Signals .....	166
Low Energy Sweet Drinks and Body Weight .....	167

Sweet Foods and Caloric Regulation .....	169
Conclusions .....	170
Commentary .....	172

## SECTION V. Sweetness and Obesity

### Chapter 12. Sweetness and Obesity

<i>Adam Drewnowski</i> .....	177
Introduction .....	177
Perception of Sweetness .....	179
Hedonic Response .....	180
Individual Differences .....	181
Complex Systems .....	182
Taste and Energy Status .....	185
Infancy and Childhood .....	186
Conclusions .....	187
Commentary .....	190

### Chapter 13. Sweetness and Eating Disorders

<i>Judith Rodin and Danielle Reed</i> .....	193
Introduction .....	193
Types of Food Eaten .....	195
Sweet Sensitivity and Hedonic Valuation .....	196
Biological Mechanisms Relating Sweet Preference to Disordered Eating .....	198
Conclusions .....	201
Commentary .....	203

### Chapter 14. Sweetness and Performance

<i>Edward Hirsch</i> .....	205
Introduction .....	205
Methodological and Conceptual Issues .....	206
Research Strategies .....	206
Defining the Independent Variable .....	209
Test Population .....	211
Prevailing Nutritional State .....	212
Research Findings .....	212
Sweetness and Children's Behavior .....	212
Sweetness and Athletic Performance .....	216
Sweetness and Antisocial Behavior .....	218
Commentary .....	223

## SECTION VI. Implications of Sweetness

### Chapter 15. Implications of Sweetness in Upbringing and Education

<i>Matty Chiva</i> .....	227
Introduction .....	227

The Child .....	228
Sweetness and Education in General .....	229
Sweetness and the Social Behaviour of Non-verbal Communication .....	230
Nutritional Education .....	232
Sweetness and the Nutritional Education of Children .....	232
Sweetness and the Nutritional Education of Adults .....	234
Conclusion .....	235
Commentary .....	237
<b>Chapter 16. Sweetness in Marketing</b>	
<i>Howard G. Schutz and Debra S. Judge</i> .....	239
Introduction .....	239
Consumer Attitudes .....	239
Sweetness in Contemporary Marketing .....	240
Methodologies in Marketing .....	243
<b>Chapter 17. Sweetness in Product Development</b>	
<i>P. Würsch and N. Daget</i> .....	247
Introduction .....	247
Sweetness in the Food System .....	250
Choice of Sweetener .....	252
Product Optimisation .....	254
Establishment of Measuring Instruments .....	255
Optimisation Trials .....	256
Conclusions .....	258
Commentary .....	259
<b>Chapter 18. Sweetness in Food Service Systems</b>	
<i>Herbert L. Meiselman</i> .....	261
Introduction .....	261
Food Attitudes .....	262
Food Acceptance of Sweet Foods .....	265
Food Selection and Intake of Sweet Foods .....	267
Food Waste of Sweet Foods .....	270
Conclusions .....	272
Commentary .....	274
<b>Index</b> .....	277

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Section I

## The Nature and Taste of Sweetness

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