

Getting Started With the Publication Process



- Define a problem to be investigated – and what is known (LITERATURE/INTRODUCTION and DISCUSSION)
- Propose a HYPOTHESIS/OBJECTIVE
- How to investigate the problem – EXPERIMENTAL METHODS
- Expected outcomes (RESULTS)
- Share with colleagues in your group -- examine for flaws and alternative hypothesis, etc.

The Written Proposal Or Plan of Investigation



ehow.com

- How much detail should it include?
- The research topic should be fully defined!
- Usually includes “a literature review”, which describes published work or what is known about your topic. Know the literature well!
- May form the rough draft of the Introduction portion of your future manuscript! More on the Introduction later.

Literature Review



anguillaindonesia.com

Perhaps the most important task before conducting research and writing.

Find information pertinent to your topic:

- May include information on economics of the problem

- May include information on methodology

- May include information on the species or related species

- May include information on what is known about the problem to be investigated.

How to find information (literature)

Review articles on subject: good for older literature and for more recent literature. Depends on publication date.

Google? Can be very good for a brief topic or author search. Find a very recent article, read and use the literature cited section. Often the best and more current.

Search Engines/databases: Lots of good databases including Web of Science, CAB, Agricola, etc. May use either keywords or authors. Consult Librarian!

Current TOC of journals: Find the journal website and consult the TOC.



Maintaining a literature database for yourself

Index cards or logbook – a older manual method

Endnote – program that records literature citations
and can reconfigure for various journals

Zotera – program that records literature citations but
must be used with firefox search engine

Computer files – suggest keeping a file folder in which
you place pdfs of literature



Most Authoritative



flickr.com

Scholarly Journals:

- Report original research or experimentation, often in specific academic disciplines.
- Targeted audience is the scholarly researcher, faculty, and students.
- Articles are written by experts in the field.
- Articles use jargon of the discipline, and assume a familiarity with the subject. Illustrations are few, and support the text, typically in the form of charts, graphs, and maps.
- Articles must undergo the peer review (refereed) process prior to publication.
- Articles usually include footnotes or bibliographies using a standardized citation format.
- May be continuously pages from one issue to the next.

Example: Issue 1 will end on page 455 and Issue 2 will begin on page 456

Not Very Authoritative



flickr.com

Popular Magazines:

- Cover news, current events, hobbies or special interests.
- Are targeted at the general public, and available to a broad audience.
- Articles are usually written by a member of the editorial staff or a freelance writer.
- Language of the article is geared for any educated audience, and does not assume familiarity with the subject matter.
- Include many illustrations, often with large, glossy photographs and graphics.
- Sources are sometimes cited, but do not usually include footnotes or a bibliography.

Not Very Authoritative



flickr.com

Professional/Trade Journals

- Written for experts in a particular field; may be extremely specialized.
- Designed to help professionals keep up with the latest developments and research in a particular field.
- Include notices about people, organizations, new publications, conferences, and topical issues in a field.
- Articles use the jargon of the field.
- If research results are reported they are unlikely to include a bibliography.

A Word About Information From Websites

- Be critical of information presented here
- Many journals will not accept websites as authorities because the sites are not reviewed; content not verify by reliable authority. e.g. Wikipedia
- Number of good sources for ways to verify websites on line.
- Always best to cite original literature
- If you do need to cite websites, do so sparingly
- Check before publication – still active



Digression –Websites and e-Journals

- “Strongest” or most meaningful citation is from a **REFEREED** JOURNAL (paper or electronic)
- Book chapters are also good, but are usually not refereed stringently
- Abstracts, Proceedings, Trade Journals, and Newspaper Articles are not authoritative! Many websites fall into this category most of the time
- Best advice: use Refereed journal articles as citations to develop your manuscript ideas

The Proposal (cont.)

- Should include your hypothesis and objectives after a very thorough literature and discussion with colleagues, supervisor and others.
- Should include how you are going to investigate the hypothesis is just as important.
- Include as many details as possible and cite the appropriate literature.
- Define parameters of experiments:
 - What is the experimental design?
 - What is the experimental unit?
 - What data will you be collecting?
 - How will your data be analyzed?



The Proposal (cont.) BEST ADVICE

CONSULT A STATISTICIAN FIRST!!!!



[consulting.jpg](#)

- What is the experimental unit – (single dish vs. multi-well dish)?
- Which experimental design should be used?
- How many replications (Power)?
- What statistics should be used?



mdseg.net



georgetiemann.com

EXPERIMENTAL DETAILS

Experiments must state a design

Randomized complete block

Latin square

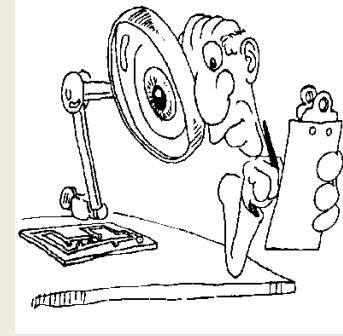
Completely randomized

Incomplete block



A factorial is an arrangement within an experimental design! Usually expressed as a 3x2 arrangement of treatments in a Randomized Complete Block (RCB).

EXPERIMENTAL DETAILS



klarify.com

STATISTICAL ANALYSES

What kind of data is to be analyzed?

What stats program is to be used?

What is the model?

What is the P level (0.05)?

Details



www.caribbeantrakker.com

The Proposal (cont.)

- What are your expected results?
- Who would be interested in your study – who is your intended audience? Discuss with your supervisor and colleagues.
- How to choose a venue for publication?
Refereed or other – can you publish in both?
Topic or subject
Readership
Impact factor
Time for review and publication (on-line first?)



spiritusfinancial.com

The Proposal (cont.)



sasamuzdeka23.wordpress.com

- Selection of a “Target Journal”
- Obtain ITA – Instruction to Authors
- Obtain a copy of a recent (1 year) article
- Format your proposal according to ITA
- Be careful to abbreviate according to ITA
 - h or hr for hour; s or sec for second
- Order of authorship – before writing begins
- Check with Supervisor – who and position
- May require some negotiation skills

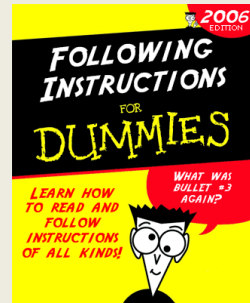
The Proposal – Conclusions

- The more detailed your “roadmap”, the less likely you are to become “lost”. Good planning is at the heart of good research and communication.
- The more you write in the proposal the less you will need to write in your final product – the manuscript.
- Seldom will the manuscript mirror exactly what is written in the proposal. Be prepare for many course corrections.



Instructions to Authors (ITA) and Citations

- Most journals have a very stringent ITA and is specific for that journal!
- Most journals are similar in structure, but differ in the details – there are many exceptions
- The most obvious differences between journal ITAs are found in the literature cited sections, abbreviations and physical formatting. Physical formatting is not so important now
- Always have published paper as a reference



The importance of following the style dictated by the Journal?

- Neatness counts – YOU and YOUR manuscript will be judged on how well you can follow instructions.
- Too many errors can cause rejection without consideration of your science.
- You want to put your best effort forward; don't let reviewers/editors judge anything but YOUR SCIENCE – that is our ultimate goal.
- BTW – many grant applications will be rejected without reading/evaluation if you don't follow instructions to the letter.



motifake.com



kumc.edu

Oral Presentations



web.mit.edu

- Language used for oral presentations can be quite different than language used for scientific writing.
- The primary purpose of the oral presentation (proposal) is to convey information – i.e. what your research is about.
- The secondary purpose of a proposal presentation is to solicit opinions/ideas/criticisms of the research plan.
- Another secondary purpose is to provide some experience in speaking to large groups of peers and supervisors.

Oral Presentations -- Language



jgamereview.com

- The language used is typically not as formal as found in written reports, although it should not be sloppy.
- The language should be more of a “dialog” with the audience and should NOT be scripted on paper.
- The use of personal pronouns (I, We, They, etc.) is acceptable and somewhat preferred.
- Try to use as little jargon as possible; if you must, then define as it is used.

Oral Presentations – Time



timeforresults.com

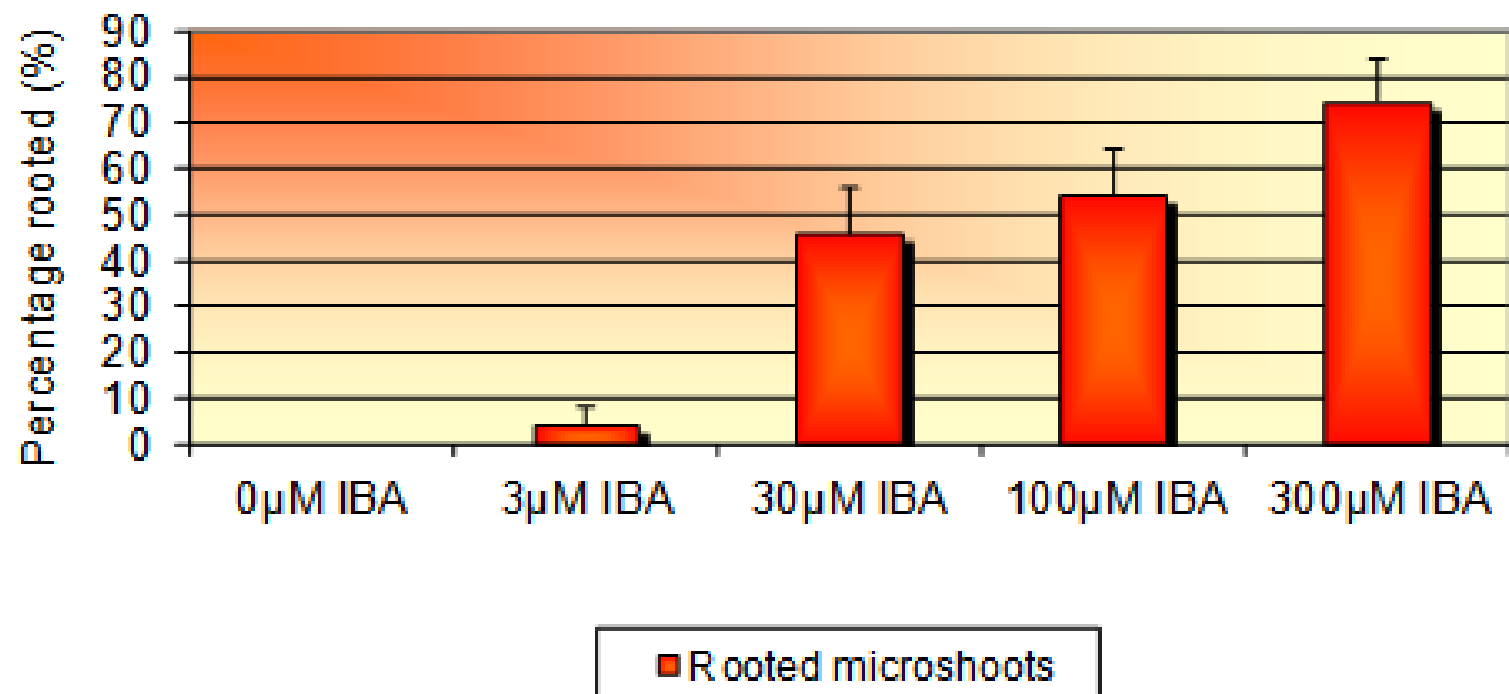
- Organization of the presentation should be very similar to the organization found in your proposal.
- In a 30 minute presentation, you should take about the following time for each section:
 - 10 minutes for the Introduction (brief lit. review)
 - 3 minutes for the Objectives of the study
 - 10 minutes for the Materials and Methods
 - 5 minutes for any Preliminary Results
 - 2+ minutes for any Questions/Comment/Criticisms

Oral Presentations – Slide Preparation



- Keep slides uncluttered – not like this one!
- Number slides – helps with questions
- Keep wording to a minimum – bullet lists instead of sentences
- Be consistent with punctuation – always or never
- Cite all pictures used except clipart.
- Use soothing, easy-to-read, colors on slides -- no very bright colors

Rooted microshoots



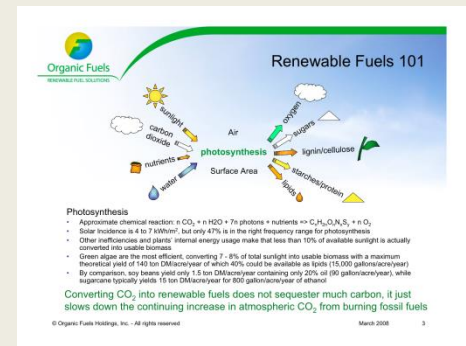
POOR COLOR SCHEME

Oral Presentations – Slide Preparation

- Make sure the font size is standard throughout all the slides and most importantly,
- Keep special effects to a minimum; usually used for emphasis – do not overuse
- Correct all typographical errors – have a colleague check your formatting/spelling/grammar
- Credit all images with source
- Plan on NO MORE THAN TWO slides/ minute

Oral Presentations – Slide Preparation

- Pictures are almost always better than words
- Be sure that pictures are in focus
- Use pictures/phrases as “cue cards”
- Do not use complicated tables – reorganize for the presentation – only the essentials



Reduce tables to essentials -- readability



sweetshimas.com

BMI INDEX

Children's BMI Tables*
pediatrics.About.com

BMI Height (inches)	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
33	20	21	23	24	26	27	29	30	32	34	36	37	39	40	41	43	44	46	47	49	51	52	54	55	57
34	21	23	24	26	27	29	31	32	34	36	37	39	41	42	44	46	47	49	50	52	54	55	57	59	60
35	22	24	26	27	29	31	33	34	36	38	40	41	43	45	47	48	50	52	54	55	57	59	60	62	64
36	23	25	27	29	31	33	35	36	38	40	42	44	46	47	49	51	53	55	57	58	60	62	64	66	68
37	25	27	29	31	33	35	37	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72
38	26	28	30	32	34	36	39	41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71	73	75
39	28	30	32	34	36	38	41	43	45	47	49	51	54	56	58	60	62	64	67	69	71	73	75	77	79
40	29	31	34	36	38	40	43	45	47	50	52	54	56	59	61	63	66	68	70	72	75	77	79	81	83
41	31	33	35	38	40	43	45	47	50	52	54	57	59	62	64	66	69	71	74	76	78	81	83	86	88
42	32	35	37	40	42	45	47	50	52	55	57	60	62	65	67	70	72	75	77	80	82	85	87	90	92
43	34	36	39	42	44	47	49	52	55	57	60	63	65	68	71	73	76	78	81	84	86	89	92	94	96
44	35	38	41	44	46	49	52	55	57	60	63	66	68	71	74	77	79	82	85	88	90	93	96	99	101
45	37	40	43	46	48	51	54	57	60	63	66	69	72	74	77	80	83	86	89	92	95	97	100	103	106
46	39	42	45	48	51	54	57	60	63	66	69	72	75	78	81	84	87	90	93	96	99	102	105	108	111
47	40	43	47	50	53	56	59	62	65	69	72	75	78	81	84	87	91	94	97	100	103	106	109	113	116
48	42	45	49	52	55	58	62	65	68	72	75	78	81	85	88	91	95	98	101	104	108	111	114	117	120
49	44	47	51	54	58	61	64	68	71	75	78	81	85	88	92	95	99	102	105	109	112	116	119	122	125
50	46	49	53	56	60	64	67	71	74	78	81	85	88	92	96	99	103	106	110	113	117	120	124	128	131
51	48	51	55	59	62	66	70	73	77	81	85	88	92	96	99	103	107	110	114	118	122	125	129	133	137
52	50	53	57	61	65	69	73	76	80	84	88	92	96	100	103	107	111	115	119	123	126	130	134	138	142
53	51	55	59	63	67	71	75	79	83	87	91	95	99	103	107	111	115	119	123	127	131	135	139	143	147
54	53	58	62	66	70	74	78	82	87	91	95	99	103	107	111	116	120	124	128	132	136	141	145	149	153
55	55	60	64	68	73	77	81	86	90	94	98	103	107	111	116	120	124	129	133	137	141	146	150	154	158
56	57	62	66	71	75	80	84	89	93	98	102	107	111	115	120	124	129	133	138	142	147	151	156	160	164
57	60	64	69	73	78	83	87	92	97	101	106	110	115	120	124	129	134	138	143	147	152	157	161	166	170
58	62	66	71	76	81	86	90	95	100	105	110	114	119	124	129	133	138	143	148	153	157	162	167	172	176
59	64	69	74	79	84	89	94	99	103	108	113	118	123	128	133	138	143	148	153	158	163	168	173	178	182
60	66	71	76	81	87	92	97	102	107	112	117	122	127	132	137	142	148	153	158	163	168	174	179	184	188
61	68	74	79	84	89	95	100	105	110	115	121	127	132	137	142	148	153	158	164	169	174	179	185	190	194
62	71	76	82	87	92	98	103	109	114	120	125	131	136	142	147	153	158	164	169	174	180	185	191	196	200
63	73	79	84	90	95	101	107	112	118	124	129	135	141	146	152	158	163	169	175	180	186	191	197	203	208
64	75	81	87	93	99	104	110	116	122	128	134	139	145	151	157	163	168	174	180	186	192	198	204	210	216
65	78	84	90	96	102	108	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	221
66	80	86	92	99	105	111	117	123	130	136	142	148	154	161	167	173	179	185	192	198	204	210	216	223	228
67	83	89	95	102	108	114	121	127	134	140	146	153	159	166	172	178	185	191	197	204	210	217	223	229	234
68	85	92	98	105	111	118	124	131	138	144	151	157	164	171	177	184	190	197	203	210	217	223	230	236	241
69	88	94	101	108	115	121	128	135	142	148	155	162	169	176	182	189	196	203	209	216	223	230	237	243	249
70	90	97	104	111	118	125	132	139	146	153	160	167	174	181	188	195	202	209	216	223	230	236	243	250	256
71	93	100	107	114	121	129	136	143	150	157	164	172	179	186	193	200	207	215	222	229	236	243	250	258	264
72	95	103	110	117	125	132	140	147	154	162	169	176	184	191	199	206	213	221	228	235	243	250	258	265	272
73	98	106	113	121	128	136	144	151	159	166	174	181	189	197	204	212	219	227	234	242	250	257	265	273	280
74	101	109	116	124	132	140	148	155	163	171	179	186	194	202	210	218	225	233	241	249	257	264	272	280	287
75	104	112	120	128	136	144	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	280	288	295
76	106	115	123	131	139	147	156	164	172	180	188	197	205	213	221	230	238	246	254	262	271	279	287	295	303
77	109	118	126	134	143	151	160	168	177	185	193	202	210	219	227	236	244	253	261	269	278	286	295	303	311
78	112	121	129	138	147	155	164	173	181	190	199	207	216	225	233	242	250	259	268	276	285	294	302	311	319

*To use the table, find the appropriate height in the left-hand column labeled Height. Move across to a given Weight. The number at the top of the column is the BMI at that height and weight. Pounds have been rounded off.
Copyright © 2003 About, Inc. All rights reserved.

Height (cm)	23	24	25	26
155	65	67	71	76
160	65	68	72	79
165	67	70	74	80
170	68	71	76	83

Oral Presentations – The Presentation

- Stay seated until introduced to the audience
- Know your material well
- Be prepared!! PRACTICE, PRACTICE, PRACTICE
- Be familiar with venue (if possible)
- Know your audience
- Try not to read your slides to the audience



Oral Presentations – “ Simple Suggestions”

- Keep eye contact with the audience (or at least the appearance). “Friends” can help
- Light pen or pointer
- Talking into the screen – left or right-handed
- Face the audience at all times
- Use of microphone
- Dress appropriately

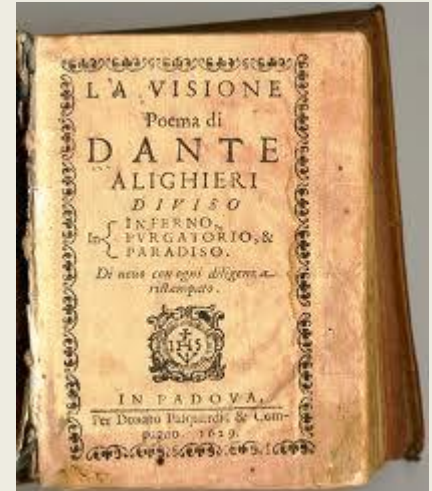


Sections of a Manuscript

- **Title Page**
- Abstract (Summary)
- Introduction
- Materials and Methods
- Results – sometimes combined with Discussion
- Discussion
- Literature Cited or References
- Figure Legend(s)
- Table(s)

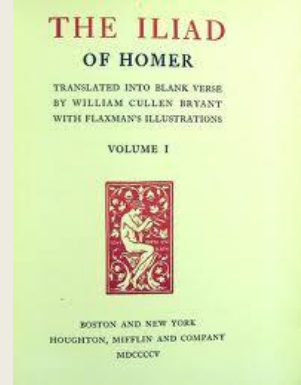
Elements of a Title Page

- Title
- Running Title (sometimes)
- Authors name(s)
- Affiliations and addresses
- Corresponding author email, phone number, fax number
- Key words (sometimes)



nd.edu

Title Page



mccunecollection.org

- Follow ITA – Usually Upper case letters for all Informative Words. Lower case for prepositions, conjunctions. Flowering Dogwoods Are Trees of the Forest.
- May be bolded.
- Limitation on characters – some, not many journals, are very specific on this.
- If you are working with a specific species of plant – good idea to include the scientific name (usually not the authority) and common name; for some journals (Entomology), convention or required family.

Importance of the Title

- Your title is the first thing people see – need to grab their attention and the title needs to scream

READ ME NOW!!!

Let your title tell a mini-story of the content.

- Use an economy of words, but complete and informative.
- First impression of work – influences how reviewers/editors/readers perceive your work.



sundininc.com

Examples of Titles

- “The effects of acid rain on growth of flowering dogwood” **Passive and somewhat boring**
- “Acid rain is detrimental to growth of flowering dogwood” **Active /information and somewhat exciting**
- “Acid rain limits cuticular wax deposition and slows growth in flowering dogwood ”
- Cuticular wax deposition limited by acid rain. **Active and more informative!**



More Examples of Titles

Which title do you like?



happyisien.blogspot.com

- Microsatellites of *Cornus florida*
- Ten Polymorphic Microsatellites of *Cornus florida*
- Ten Polymorphic Microsatellites Used to Distinguish Cultivars of *Cornus florida*

Running Title



athleticsafrica.com

Some Journals require this; others do not

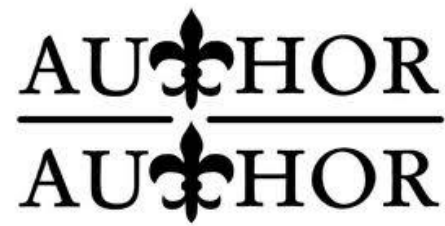
- This is usually a truncated or shortened version of your main title: if required, may have a limitation on the number of characters. Informative, but not necessarily concise.

Examples

- Cuticular wax deposition limited by acid rain.
- Cuticular wax and acid rain
- Microsatellites of dogwood

Who should have Authorship?

- Depends on the culture of the program – how does your supervising Professor want it?
- The person who did the research?
- The person who did the writing?
- Your supervising Professor?
- Committee members?
- Anyone who contributed ideas or essential work?
- Sometimes, the sponsor of the project– who provided the money?



authorauthorshreveport.com

Who Should Not Be An Author?

- Generally, technical help should not be
- Minor contributors – someone let you use a piece of equipment once
- Funding Partner???
- These people as well as the grant information should be in the acknowledgement



ugaundercover.wordpress.com

Order of Authors



chiangmainews.com

- Important to be very frank with authors and negotiate and agree upon an order.
- Generally, whoever did the research and wrote the paper is first, although in some cultures the Supervising Professor is always first.
- Second through X is generally who did the most, second, third, to least
- Sometimes the supervising Professor is the last. I generally do this in my working group.

Corresponding Author



clipartguide.com

- For most papers, Supervising Professor will be the corresponding author. Responsible for submitting the paper, receiving instructions from editor, submitting corrections, etc.
- Many times, Postdoctoral Research Associate will be the corresponding author. Rarely will a Ph.D. or M.Sc. student be corresponding author.

Writing Responsibilities of Authors

- Usually one person writes it – e. g. student
- Supervising Professor writes suggestions – may go back and forth several times
- Other authors make comments – usually once
- Ultimately the supervising Professor has responsibility for the manuscript
- For review papers – usually each author writes a section then the primary author blends to unify style, etc.

